Fitzgibbons

Fitzgibbons Boiler Company, Inc.

THE FITZGIBBONS BOILER

Reg. U. S. Pat. Off.

AIA FILE No. 30 C-1

"D" TYPE

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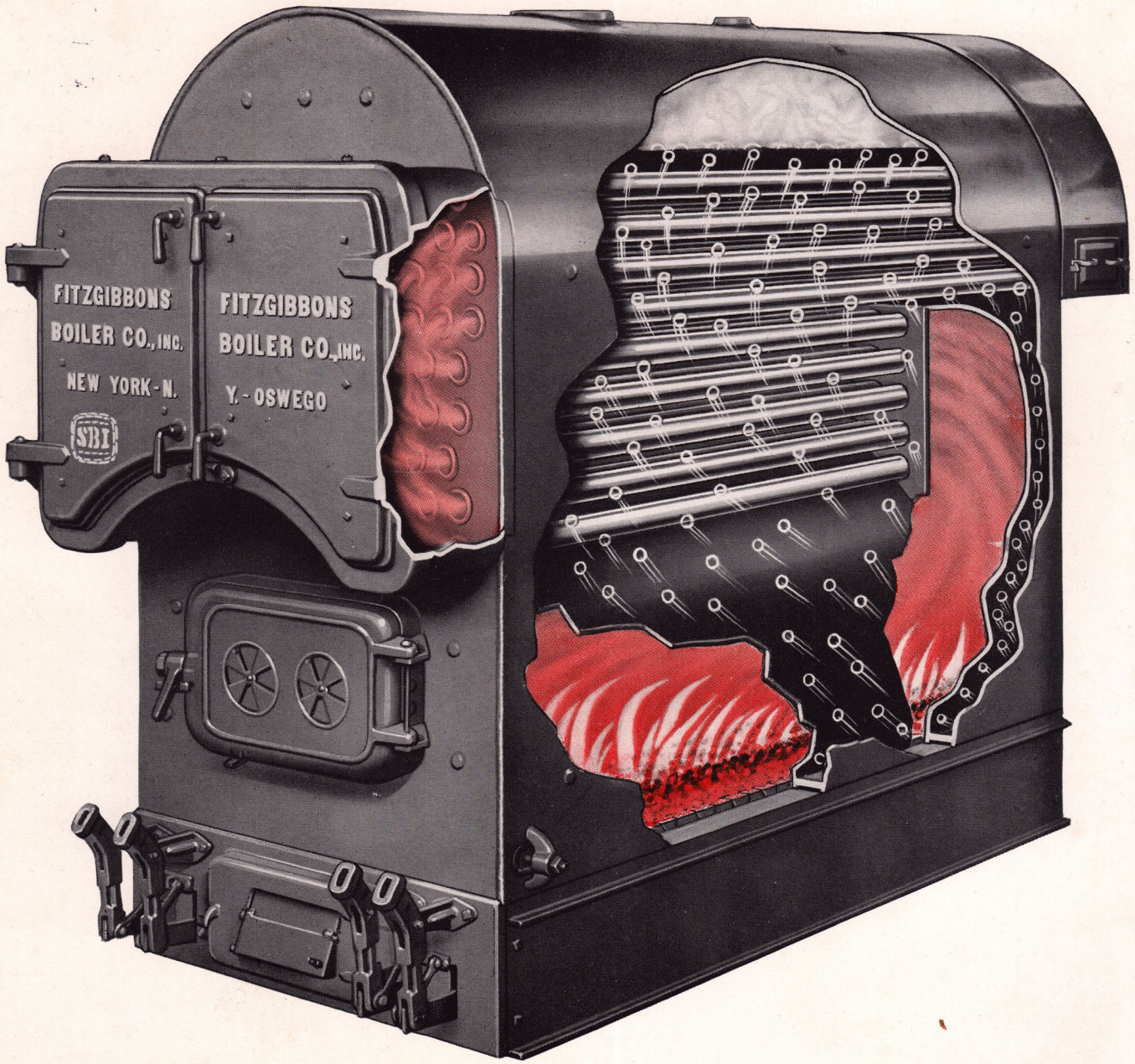
F I T Z G I B B O



BOILER FOR TODAY—ideally fitted to present-day heating conditions... Hitting high efficiencies with all of the fuels currently in use—oil, gas, anthracite, bituminous ...Responding enthusiastically to thermostat demands in automatic firing...Shortening intermittent firing periods and thus saving fuel by its exceptionally quick-heating characteristic...Providing the maximum of convenience in hand firing with coal or with automatic stoker, and insuring against fuel shortage difficulties by the facility with which it can be switched to the use of other fuels more readily obtainable.

This is the FITZGIBBONS "D" TYPE—BOILER FOR TODAY!

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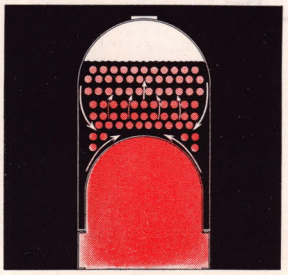
S. C. BRATTON
MANUFACTURER'S REP.
PHONE 54-8534 AMERICAN LIFE BLDG.
BIRMINGHAM, ALABAMA

Features that make the . . .
FITZGIBBONS "D" TYPE
an outstandingly economical boiler

FITZGIBBONS "PRECISION" CONSTRUCTION

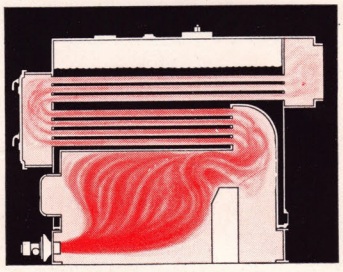
A skill enhanced by long years of experience and sharpened by specialized production for and during World War II, has established a new high standard of Fitzgibbons Precision production. New and modern equipment for handling, shaping, shearing and positioning of "close tolerance" work assures maintenance of true dimensions. Fabricated throughout of the finest quality steel, all joints of Fitzgibbons boilers are electric-arc welded with the latest equipment by specially trained veteran operators using the most advanced techniques. Fitzgibbons has gone beyond the traditional "boilermakers thumb" rule of near-perfection, to true tolerance precision standards for the boilers built in its modern shops in Oswego, New York.

POSITIVE WATER CIRCULATION



Starting with the smooth, arched crown sheet, free of convolutions or other distorted form to check free movement of water, every element in the "D" Type boiler is designed to expedite water circulation. The design of the Fitzgibbons "D" Type boiler sets up effective circulation of water—a rapid, continuous, surging sweep induced by the concentration of heat at the high point in the crown sheet where millions of steam bubbles rush to the water line for liberation thus drawing cooler water from the boiler contents to replace that which has been heated. This movement is so powerful and positive that it brushes the steam bubbles from the tubes, further promoting rapid steaming. The sweeping surge of boiler water also scours and cleans the water side of tubes and crown sheet, dislodging all particles of sediment, which finally settle in the water legs where clean-out openings permit its easy removal.

FULL AND COMPLETE COMBUSTION



During Fitzgibbons' more than sixty years of building thousands of steel boilers, valuable combustion data has been developed, and now applied in the "D" Type boiler. The firebox is so proportioned as to force every unit of fuel—coal, oil, or gas—to give up its potential heat content. In the oil or gas fired type, the generous combustion area insures the liberation of every Btu. In the coal burning type, grate apertures and secondary air intake are correct for admitting the right amount of air. Flue gases make several passes over the length of the boiler. This long, flue gas travel leaves most of the heat behind in the boiler water before the gases reach the stack. This promotes quick absorption of heat and *real operating efficiency.*

EXCEPTIONALLY RAPID STEAMING

One measure of a boiler's value is the speed with which it turns fuel into usable heat. This is particularly a valuable characteristic in the on-and-off operation of mechanical firing, where immediate response to heat requirements is essential to prevent time lag and excessive temperature variation. The Fitzgibbons steel boiler of the "D" Type is a quick steam generator and the time to get up steam is unusually short. Also the evaporative power of the boiler is remarkably high. In this field of quick steaming, Fitzgibbons steel boilers have been famous for years, and the "D" Type measures up fully to Fitzgibbons standards, due to the combination of extremely rapid water circulation, and exceptionally favorable combustion resulting from planned precision construction.

"D" TYPE REFINEMENTS *that mean better boilers*

DOOR FRAME CONSTRUCTION

This is a Fitzgibbons improvement. The door frame—a heavy steel space ring—is cut and formed closely to size, fitting inside a similarly shaped aperture cut in the double walls of the boiler shell. It is then electrically welded to both walls for a strong leakproof joint.

This construction constitutes a water-cooled frame for the fire door keeping fire-door temperatures lower. A new Fitzgibbons door catch has been developed, which locks shut with positive action yet is easy to open.

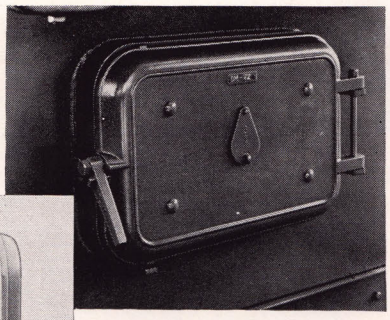


Photo at right shows door closed illustrating positive door catch locked.

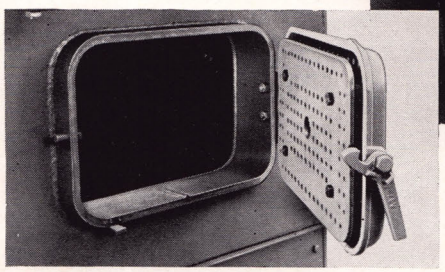
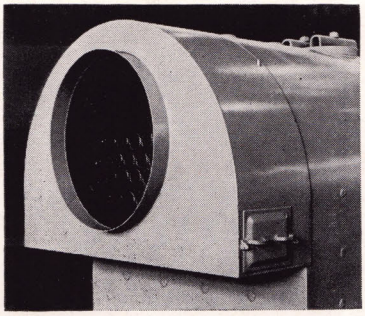


Photo at left, with door open, shows the asbestos gasket permanently in place on the contact surface of the door, making a gas- and soot-proof seal.

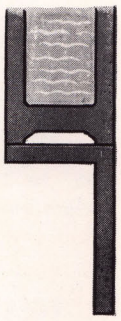
CLEAN OUT DOORS

Flyash and soot accumulation in a boiler reduces its efficiency—in a Fitzgibbons steel boiler, much of the flyash and soot is removed within the firebox by the shape and arrangement of the combustion area. However such accumulation as may be "punched" through the tubes when they are cleaned from the front of the boiler—or by the natural draft—is collected in a deep well below the tubes in the rear smokebox and may be quickly removed through the large cleanout openings on both sides. These openings have tight-fitting doors which are easily lifted off.



THE FITZGIBBONS MUD-RING

In forming the mud-ring of the Fitzgibbons "D" Type boiler the plates are not cold bent upon themselves. The mud-ring is a bar of steel considerably heavier than the plate which forms the rest of the boiler, cut to a close tolerance, then welded between the water walls. There is clearance between the bottom of the mud-ring and the lower edge of the side walls. This removes all the weight of the boiler from the mud-ring and lifts it above the area of direct contact with the base or foundation.

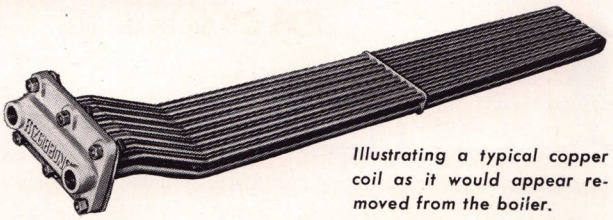


SERVICE HOT WATER SUPPLY

Fitzgibbons was one of the pioneers in providing for hot water service by a copper coil within the boiler submerged below the water line. This eliminated the need for an external water heater or storage tank and its costly piping and installation. The resulting economies of operation, satisfaction of service to users and reduced first cost of installation quickly increased the demand for this type of service water heating.

Where a tankless coil is used (the Fitzgibbons Tank-saver*) the service water flows from the source into the copper coil when it absorbs temperature from the surrounding boiler water before passing directly into the building piping. No storage tank is required.

* Reg. U.S. Pat. Off.



Illustrating a typical copper coil as it would appear removed from the boiler.

If a storage tank is already installed or may be preferred for special reasons, a submerged copper tankheater coil may be used.

Both of these coils are designed for installation in the boiler below the water line, from which they can be withdrawn for inspection, cleaning, and repair.

HOW TO SELECT *the proper boiler and capacity*

On every Fitzgibbons "D" Type steel boiler you will find displayed the symbol illustrated at the right. This is the mark of the Steel Boiler Institute, the purpose of whose existence is to develop and maintain highest standards in steel boiler design, and positive assurance of the correctness of steel boiler ratings.

The SBI mark combines with the Fitzgibbons trademark in assuring satisfactory performance in the "D" Type boiler you select.

MEMBER
STEEL BOILER INSTITUTE
SBI
HEATING · PROCESS · POWER
REG. U. S. PAT. OFF.

THE STEEL BOILER INSTITUTE RATING CODE

All boilers which bear the SBI symbol are built in strict accordance with the construction requirements of the Boiler Code of the American Society Mechanical Engineers. Boiler ratings are arrived at in accordance with the SBI Code.

The SBI symbol is the "Sterling" mark of boiler rating. It identifies the products of those steel boiler manufacturers who conform in every respect to the requirements of the Rating Code of the Steel Boiler Institute, Inc. More than a mark of merit, the SBI symbol affords practical protection for those who specify, install, and use steel boilers. This mark further simplifies the selection of steel boilers by immediately identifying products of predetermined excellence in performance.

COMMERCIAL STEEL HEATING BOILERS

For purposes of authoritative rating, the SBI code establishes nineteen standard boiler sizes, which comply with the requirements of Standard Practice Recommendation R157-37 issued by the United States Department of Commerce. For hand fired operation the SBI rating is fourteen times the heating surface. For mechanically fired operation with solid fuel or for oil or gas burning, the SBI rating is seventeen times the heating surface.

The furnace volume for boilers burning pulverized fuel, oil or gas, or stoker fired bituminous coal, will be not less than one cubic foot for every 140 sq. ft. of steam SBI rating. The furnace height for bituminous coal stoker fired boilers is the vertical height at the center of the boiler from bottom of waterleg to crownsheet, and complies with the recommendation of the Stoker Manufacturers Association.

FACTORS IN BOILER SELECTION

In selecting a boiler using SBI Ratings, the following factors are considered:

A. RADIATION—The estimated normal heat emission of connected radiation required to heat the building as determined by accepted practice.

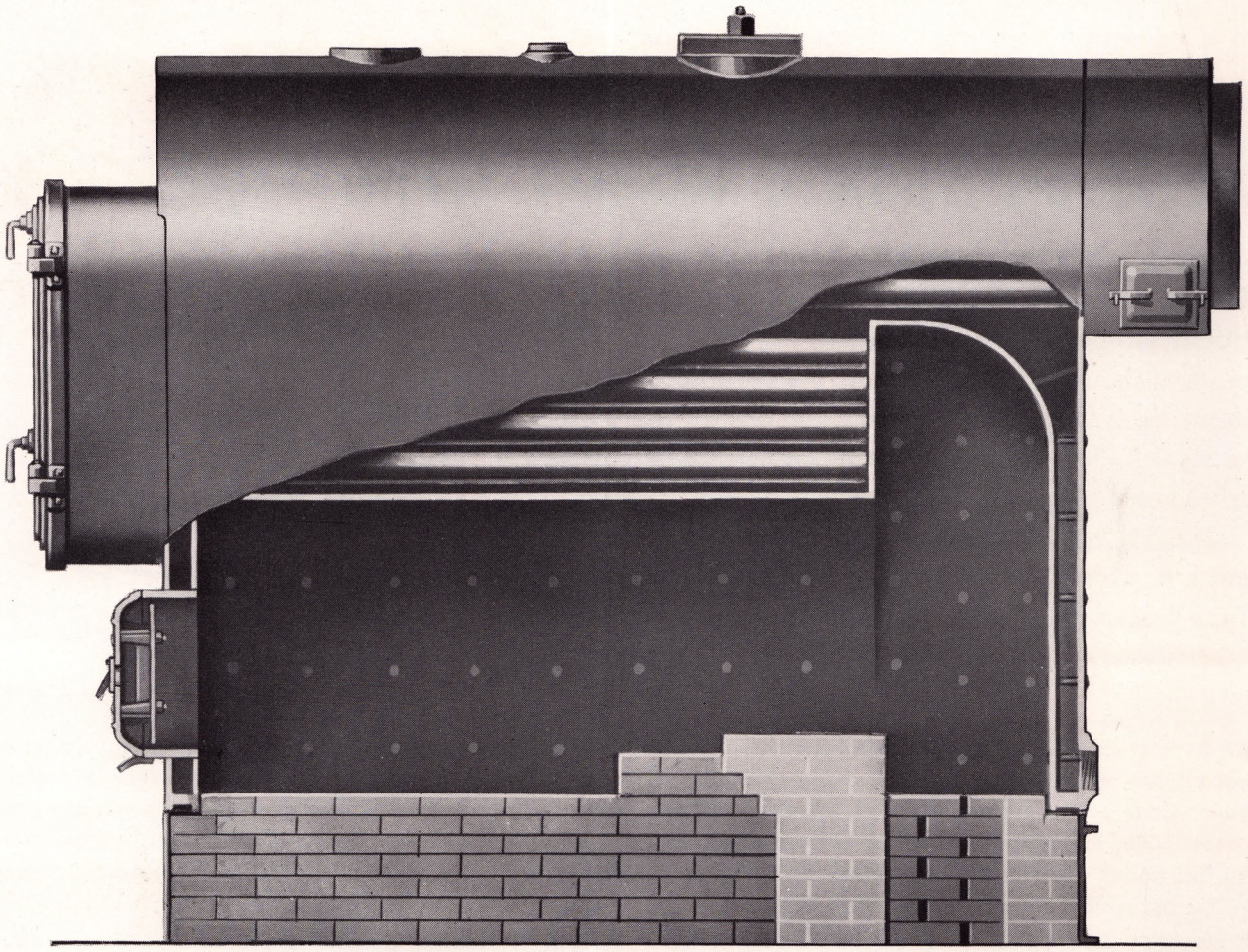
B. WATER HEATING — The estimated maximum heat required by service water heaters or other apparatus connected to the boiler.

C. PIPING—The estimated heat emission of piping connecting radiation and other apparatus to the boiler.

The sum of A, B, and C is the total connected load and is the basis of SBI Rating.

* * *

For those engineers who figure only the net load and whose experience demonstrates that a normal allowance for piping can be used, as in smaller installations, A and B only are considered, their sum being SBI Net Rating. In this case if heat loss from piping should exceed 20 per cent of installed radiation, the excess shall be considered as additional Net Load.



OIL, GAS *or* MECHANICAL STOKER

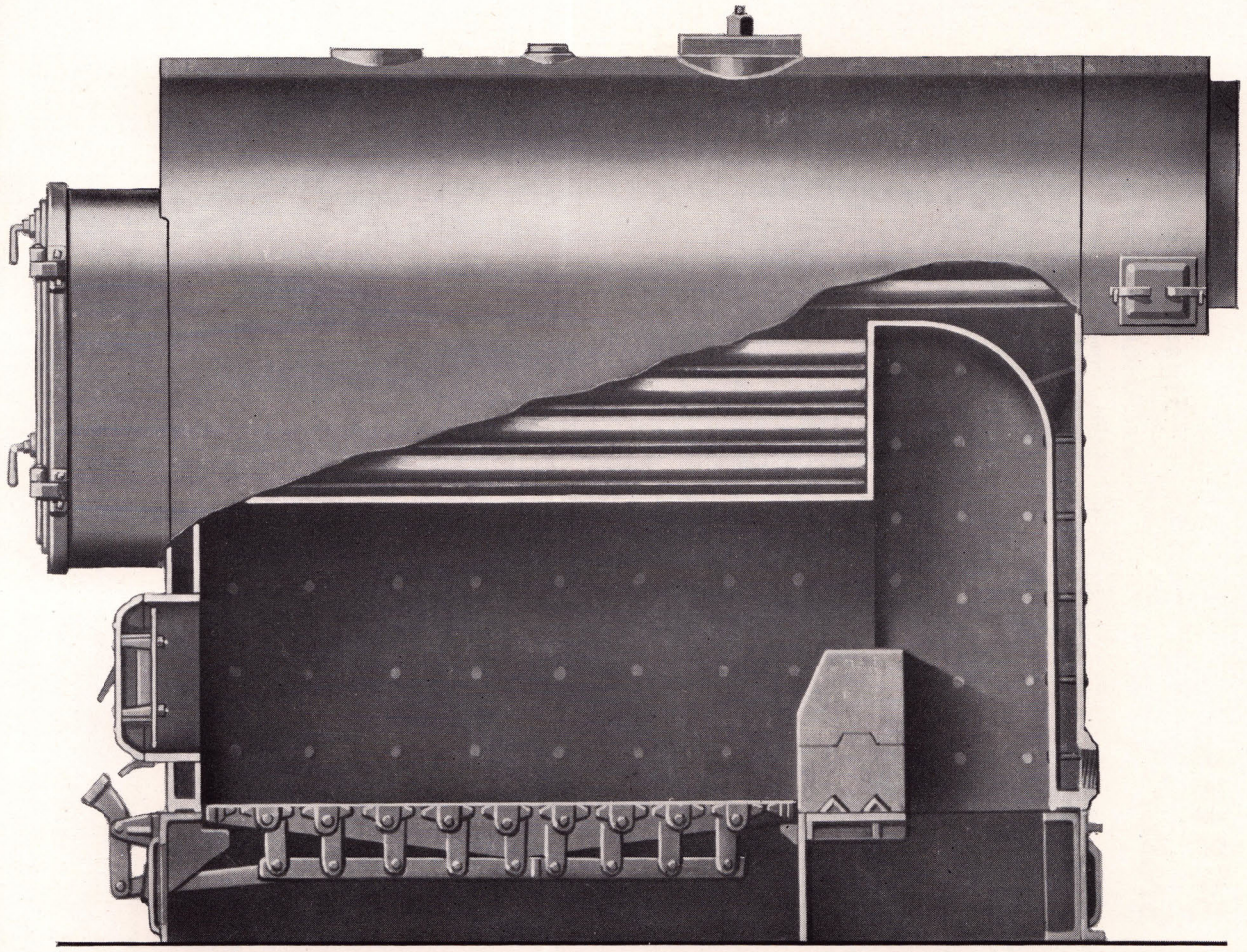
DM *and* DS SERIES

With mechanical firing the Fitzgibbons "D" Type boiler is ideally adapted for converting heat from the fuel used—oil, gas or coal—with the maximum of transfer efficiency. Everything about the boiler is designed to this end. The generous combustion area assures the complete burning of the fuel, while the large area exposed to radiant heat, combined with the long "back-and-forth" flue travel, aids the boiler water in absorbing every possible Btu.

The all-steel construction and the favorable features of "D" Type design, give that speedy pick-up which is an especially valuable characteristic in intermittent firing as with oil or gas, eliminating the time lag which causes both temperature fluctuations and high fuel costs. The steel construction also affords positive protection against the leaks and cracks always possible in on-and-off operation where anything but steel is the boiler material.

Any good oil burner, gas burner or mechanical stoker will perform at its best in the "D" Type boiler. The boiler rests on rear and side panels of the Fitzgibbons base. Thus, without disturbing the boiler setting, the front panel can be removed if necessary for the repair or replacement of the mechanical firing equipment.

N S "D" T Y P E



This is the boiler that is serving widely in the heating of apartments, theaters, churches, schools, institutional and commercial buildings. It is a thoroughly developed and standardized unit, and deservedly holds a high place in the estimation of building management executives, architects, and engineers.

One particularly noteworthy factor is the ease with which the fire surfaces of the boiler can be kept clean and at their most efficient state. All tubes can easily be cleaned from the front of the boiler through the large clean-out doors. Removal of soot and flyash from the fire side of the crown sheet is also easy, due to the absence of convolutions, or other contorted shapes.

When ordered for burning Bituminous coal the boiler may be equipped with the Fitzgibbons Smokeless Arch, which aids in mixing the carbon in suspension and the secondary air, thus promoting smokeless combustion of the fuel.

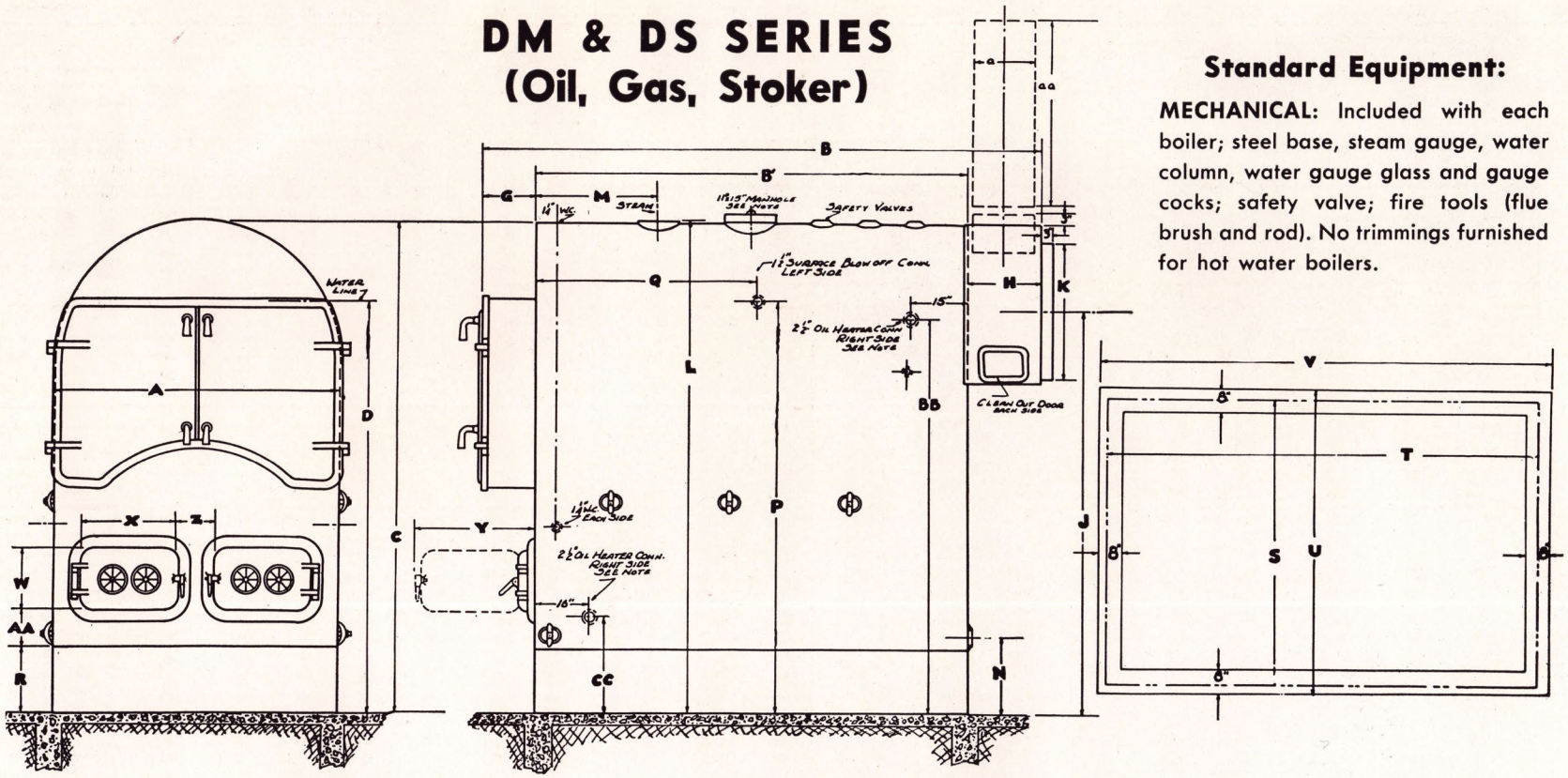
The grates available with this boiler are of two types—the Rocking Grate for commercial sizes of Anthracite, for Bituminous and for coke, and the Dumping Grate for smaller sizes of Anthracite. Selected gray iron resistant to high temperatures is used in these grates. All grate sections are carefully machined to an accurate fit, are interchangeable and easy to dismount and replace.

HAND FIRED ANTHRACITE *and* BITUMINOUS

DH *and* DB SERIES

FITZGIBBONS "D" TYPE

DM & DS SERIES
(Oil, Gas, Stoker)



Standard Equipment:

MECHANICAL: Included with each boiler; steel base, steam gauge, water column, water gauge glass and gauge cocks; safety valve; fire tools (flue brush and rod). No trimmings furnished for hot water boilers.

NOTE

*—Add Volume in Base for Total Volume.

‡—Front Smokebox and Front Head Below Smokebox is Included.

†—S.B.I. Rating indicated is E.D.R. Boiler size obtained by adding Installed Radiation plus 20% Piping Factor plus Hot Water Load. Additional consideration should be allowed for piping where uncovered and used for heating.

§—Add Bearing Load to Shipping Weight for Total Load on Foundation. Soil conditions will determine whether piers centered on corner posts will support load or whether concrete mat under entire setting is necessary.

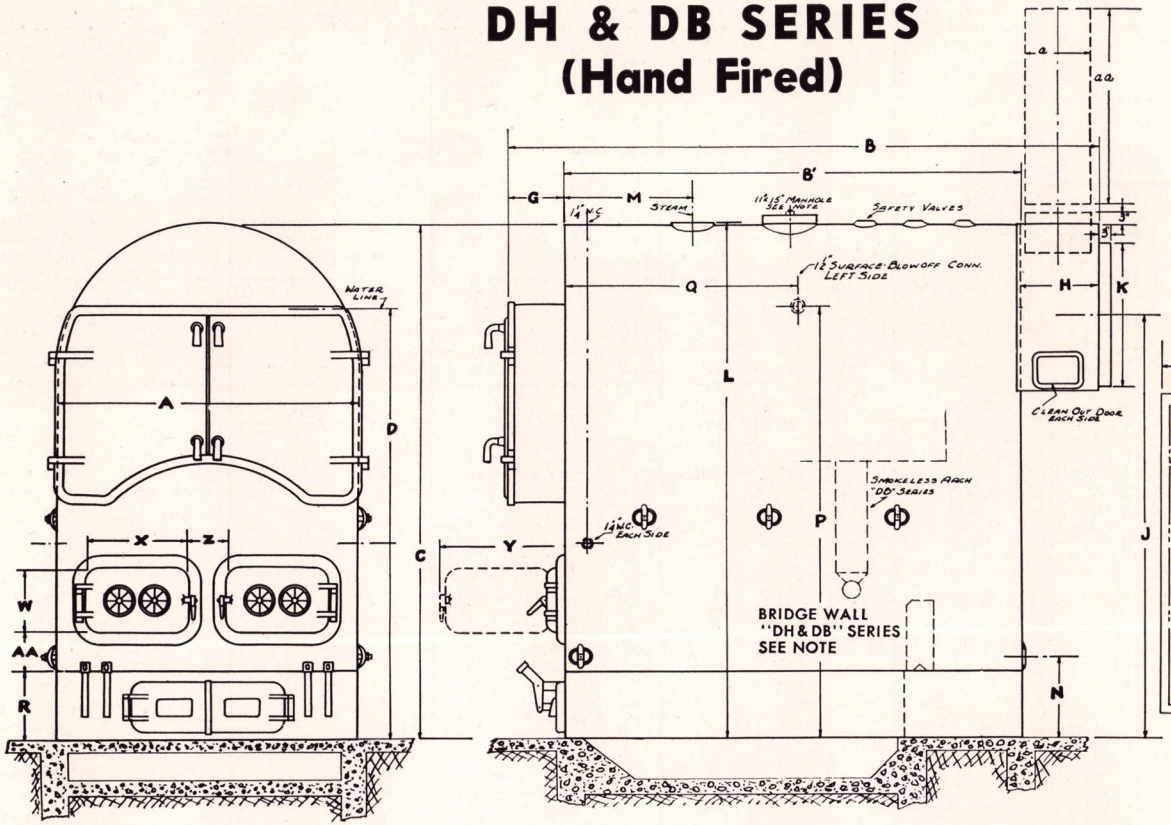
"D"—Where Fitzgibbons Tanksaver or Tankheater is used add 3" to Water Line.

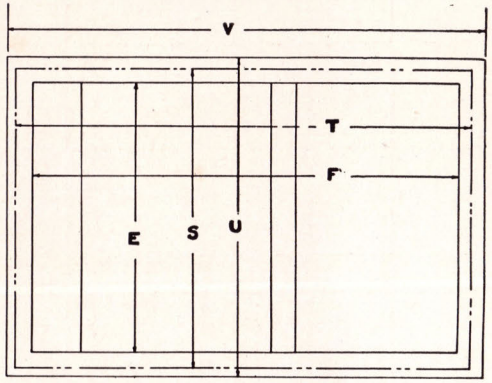
"BB-CC"—Oil Heater Connections Furnished on DM-103, DS-103 and Larger Boilers.
Manhole Furnished on DM-103, DS-103 and Larger Boilers.

BOILER NUMBER—OIL & GAS —STOKER	DM-27 DS-27	DM-31 DS-31	DM-36 DS-36	DM-42 DS-42	DM-48 DS-48	DM-54 DS-54	DM-61 DS-61	DM-72 DS-72	DM-85 DS-85	DM-103 DS-103	DM-121 DS-121	DM-151 DS-151	DM-182 DS-182	DM-212 DS-212	DM-242 DS-242	DM-303	DS-303	DM-364	DS-364	DM-425	DS-425
†EDR Rating—SBI (Steam)....Sq. Ft.	2680	3160	3650	4250	4860	5470	6080	7290	8500	10330	12150	15180	18220	21250	24290	30360	30360	36430	36430	42500	42500
†EDR Rating—SBI (Water)....Sq. Ft.	4280	5050	5840	6800	7770	8750	9720	11660	13600	16520	19440	24280	29150	34000	38860	48570	48570	58280	58280	68000	68000
B. T. U.	643000	758000	876000	1020000	1166000	1313000	1459000	1750000	2040000	2479000	2916000	3643000	4373000	5100000	5830000	7286000	7286000	8743000	8743000	10200000	10200000
Net Rating—SBI (Steam)....Sq. Ft.	2200	2600	3000	3500	4000	4500	5000	6000	7000	8500	10000	12500	15000	17500	20000	25000	25000	30000	30000	35000	35000
Net Rating—SBI (Water)....Sq. Ft.	3520	4160	4800	5600	6400	7200	8000	9600	11200	13600	16000	20000	24000	28000	32000	40000	40000	48000	48000	56000	56000
B. T. U.	528000	624000	720000	840000	960000	1080000	1200000	1440000	1680000	2040000	2400000	3000000	3600000	4200000	4800000	6000000	6000000	7200000	7200000	8400000	8400000
Heating Surface ....Sq. Ft.	158	186	215	250	286	322	358	429	500	608	715	893	1072	1250	1429	1786	1786	2143	2143	2500	2500
Furnace Volume—"SBI" Minimum....Cu. Ft.	19.2	22.6	26.1	30.4	34.8	39.1	43.5	52.1	60.8	73.8	86.8	108.5	130.2	151.8	173.5	216.9	216.9	260.3	260.3	303.6	303.6
*Furnace Vol. Actual—above bot.....Cu. Ft.	24.8	27.7	31.0	39.2	43.8	48.3	55.7	64.2	73.7	84.4	97.5	113.5	154.4	165.6	202.1	226.8	286.6	240.5	324.0	277.6	412.2
Firebox Width Inside ....In.	30 3/8	30 3/8	30 3/8	36 3/8	36 3/8	36 3/8	42 3/8	42 3/8	42 3/8	48 1/4	48 1/4	53 1/4	59 1/8	65 1/8	65 1/8	71	71	77	77	77	77
Firebox Length Inside ....In.	43 1/4	49 1/4	56 1/4	55 1/4	63 1/4	71	67 1/4	79 1/4	91 3/4	81 3/4	95 3/4	94 3/4	111	100 1/2	115 1/2	137 1/2	137 1/2	128 1/4	128 1/4	150 1/4	150 1/4
Firebox Height Inside ....In.	29 1/2	29 1/2	29 1/2	31 1/4	31 1/4	31 1/4	34	34	34	37 1/2	37 1/2	40 1/4	43	48 3/4	48 3/4	44	54 1/2	46	60 1/2	46	66
Length 3" Direct Tubes....In.	29 1/8	35 1/8	42 1/8	41 1/8	49 1/8	56 7/8	53 1/4	65 1/4	78	67 3/4	81 3/4	81 1/4	97 5/8	87 1/8	102 1/8	124 1/8	124 1/8	115	115	137	137
Length 3" Return Tubes....In.	50 1/4	56 1/4	63 1/4	62 1/4	70 1/4	78	74 1/2	86 1/2	99	89	103	103	119 1/2	109	124	146	146	137	137	159	159
A-Width—Inside Diam. of Shell....In.	36	36	36	42	42	42	48	48	48	54	54	60	66	72	72	78	78	84	84	84	84
B-Length Boiler—Overall ....In.	70 1/2	76 1/2	83 1/2	85 1/2	93 1/2	101 1/4	99 3/4	111 3/4	124 1/4	115 1/4	129 1/4	130 1/4	146 3/4	142 1/4	157 1/4	179 1/4	179 1/4	170 1/4	170 1/4	192 1/4	192 1/4
B'-Length Bare Boiler ....In.	49 1/2	55 1/2	62 1/2	61 1/2	69 1/2	77 1/4	73 3/4	85 3/4	98 1/4	88 1/4	102 1/4	102 1/4	118 3/4	108 1/4	123 1/4	145 1/4	145 1/4	136 1/4	136 1/4	158 1/4	158 1/4
C-Height ....In.	77 1/2	77 1/2	77 1/2	85 3/4	85 3/4	85 3/4	90 3/4	90 3/4	90 3/4	101 1/2	101 1/2	112 1/4	115 1/2	124 1/2	124 1/2	123 1/2	134	134 3/4	149 1/4	134 3/4	154 3/4
D-Water Line (See Note "D")....In.	68	68	68	71 3/4	71 3/4	71 3/4	75 1/4	75 1/4	75 1/4	86	86	95 3/4	97 1/2	104 1/2	104 1/2	103	113 1/2	112 3/4	127 1/4	112 3/4	132 3/4
G-Depth Front Smokebox ....In.	9	9	9	10	10	10	11	11	11	12	12	12	12	14	14	14	14	14	14	14	14
H-Depth Rear Smokebox ....In.	12	12	12	14	14	14	15	15	15	15	15	16	16	20	20	20	20	20	20	20	20
J-Floor to C.L. Rear Smoke Outlet....In.	65	65	65	68 3/4	68 3/4	68 3/4	73 3/4	73 3/4	73 3/4	83 1/4	83 1/4	90 3/4	93	103	103	101 1/2	112	111 1/2	126	111 1/2	131 1/2
K-Diam. Rear Smoke Outlet....In.	19	19	19	22	22	22	24	24	24	28	28	30	31	35	35	39	39	42	42	42	42
a-Width Top Smoke Outlet (optional)....In.	10	10	10	12	12	12	12	12	12	14	14	15	15	16	16	16	16	18	18	18	18
aa-Length Top Smoke Outlet (opt'nl)....In.	22	22	22	25	25	25	30	30	30	35	35	37	40	48	48	59	59	61	61	61	61
Steam Opening ....In.	6	6	6	6	6	6	6	8	8	8	8	8	8	8	8	10	10	10	10	10	10
L-Height Steam Opening ....In.	78 1/2	78 1/2	78 1/2	86 3/4	86 3/4	86 3/4	91 3/4	91 3/4	91 3/4	102 1/2	102 1/2	113 1/4	116 1/2	125 1/2	125 1/2	124 1/2	135	135 3/4	150 1/4	135 3/4	155 3/4
M-Location Steam Opening ....In.	21	24	24	23	26	30	30	30	36	24	24	24	30	30	30	30	30	30	30	30	30
Return Opening ....In.	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	6	6	6	6	6	6
N-Height Return Opening ....In.	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	20 3/4	20 3/4	20 3/4	20 3/4	22	22	26	26	26	26
P-Height 1 1/2" Surface Blowoff ....In.	68	68	68	71 3/4	71 3/4	71 3/4	75 1/4	75 1/4	75 1/4	86	86	95 3/4	97 1/2	104 1/2	104 1/2	103	113 1/2	112 3/4	127 1/4	112 3/4	132 3/4
Q-Location 1 1/2" Surface Blowoff ....In.	25	28	31	31	35	39	37	43	49	44	51	51	59	54	62	73	73	68	68	79	79
Water Column Openings ....In.	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Safety Valve Openings ....No.-In.	1-2	1-2	1-2	1-2 1/2	1-2 1/2	1-2 1/2	1-2 1/2	1-3	1-3	2-2 1/2	2-2 1/2	2-3	2-3	2-3 1-2	2-3 1-2 1/2	2-3 2-2 1/2	2-3 2-2 1/2	4-3	4-3	4-3 1-2	4-3 1-2
R-Base Height ....In.	14	14	14	14	14	14	14	14	14	14	14	17	17	17	17	17	17	21	21	21	21
S-Base Width (Inside) ....In.	36 5/8	36 5/8	36 5/8	42 5/8	42 5/8	42 5/8	48 5/8	48 5/8	48 5/8	54 5/8	54 5/8	60 5/8	66 5/8	72 3/4	72 3/4	78 3/4	78 3/4	84 7/8	84 7/8	84 7/8	84 7/8
T-Base Length (Inside) ....In.	49 1/2	55 1/2	62 1/2	61 1/2	69 1/2	77 1/4	73 3/4	85 3/4	98 1/4	88 1/4	102 1/4	102 1/4	118 3/4	108 1/4	123 1/4	145 1/4	145 1/4	136 1/4	136 1/4	158 1/4	158 1/4
U-Foundation Width ....In.	46	46	46	52	52	52	58	58	58	64	64	69	75	81	81	87	87	93	93	93	93
V-Foundation Length ....In.	55	61	68	67	75	83	80	92	104	94	108	108	125	114	129	151	151	142	142	164	164
Firedoor	SINGLE FIREDOOR									TWO FIREDOORS—ONE RIGHT AND ONE LEFT											
W-Firedoor Opening Height....In.	14	14	14	15	15	15	15	15	15	14	14	14	15	15	15	15	15	15	15	15	15
X-Firedoor Opening Width ....In.	18	18	18	20	20	20	24	24	24	18	18	18	20	24	24	24	24	24	24	24	24
Y-Opened Firedoor to Boiler....In.	25 1/8	25 1/8	25 1/8	27 1/8	27 1/8	27 1/8	31 1/8	31 1/8	31 1/8	25 1/8	25 1/8	25 1/8	27 1/8	31 1/8	31 1/8	31 1/8	31 1/8	31 1/8	31 1/8	31 1/8	31 1/8
Z-Distance Between Firedoors ....In.										8	8	10	10	10	10	14	14	18	18	18	18
AA-Firedoor Opening to Mud Ring....In.	6 1/2	6 1/2	6 1/2	7 1/2	7 1/2	7 1/2	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
BB-Location 2 1/2" Oil Htr. Conn. (BB)....In.										82	82	91 3/4	93 1/2	100 1/2	100 1/2	99	109 1/2	108 3/4	123 1/4	108 3/4	128 3/4
CC-Location 2 1/2" Oil Htr. Conn. (CC)....In.										22	22	25	25	25	25	25	25	29	29	29	29
Diameter Breeching—One Boiler ....In.	19	19	19	22	22	22	24	24	24	28	28	30	31	35	35	39	39	42	42	42	42
Diameter Stack—One Boiler ....In.	15	16	16	18	18	19	20	21	22	24	26	28	29	31	33	36	36	38	38	40	40
Height Stack—One Boiler ....Ft.	35	35	40	45	45	45	50	50	60	55	65	65	70	65	75	90	90	90	90	100	100
Diameter Breeching—Two Boilers....In.	23	24	24	26	26	27	30	30	31	34	36	40	41	44	47	50	50	54	54	56	56
Diameter Stack—Two Boilers ....In.	21	22	22	23	24	25	26	28	29	32	34	37	38	41	44	47	47	50	50	52	52
Height Stack—Two Boilers ....Ft.	45	45	50	55	55	55	60	60	70	65	75	75	90	75	85	100	100	95	95	110	110
‡Approx. Covering Surface....Sq. Ft.	78	83	91	104	114	123	131	147	165	160	182	214	241	265	289	330	362	345	386	385	451
Approx. Ship Wgt.—"DM-DS"....Lb.	3100	3500	3900	4400	4900	5400	5800	6700	7600	8800	10000	11800	13600	15300	17000	18100	20100	20900	23200	23400	26100
§Approx. Addition for Bearing Load....Lb.	2080	2300	2655	3010	3390	3770	4180	4770	5480	6420	7425	9200	10875	11800	13200	17200	17200	19800	19800	22900	22900

FITZGIBBONS "D" TYPE

DH & DB SERIES
(Hand Fired)





Standard Equipment:

COAL BURNING: Included with each boiler: steel base, bridge wall, rocking grates, steam gauge, water column, water gauge glass and gauge cocks; safety valve and damper regulators; fire tools (hoe, poker, slice bar, flue brush and rod). No trimmings furnished for hot water boilers.

NOTE

‡—Front Smokebox and Front Head Below Smokebox is Included.

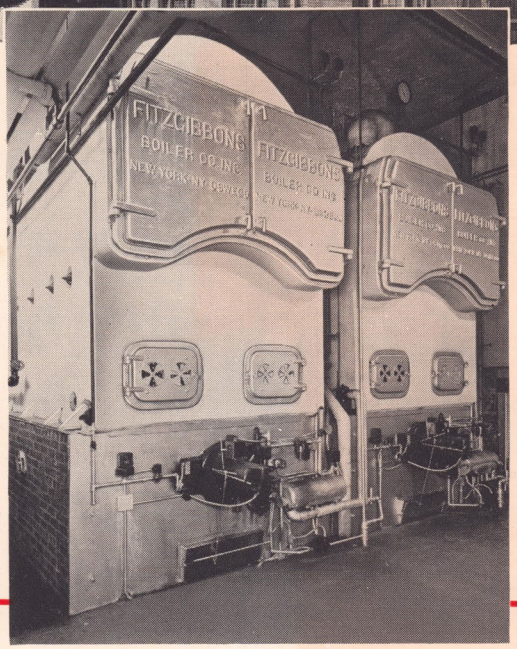
†—S.B.I. Rating indicated is E.D.R. Boiler size obtained by adding Installed Radiation plus 20% Piping Factor plus Hot Water Load. Additional consideration should be allowed for piping where uncovered and used for heating.

§—Add Bearing Load to Shipping Weight for Total Load on Foundation. Soil conditions will determine whether piers centered on corner posts will support load or whether concrete mat under entire setting is necessary.

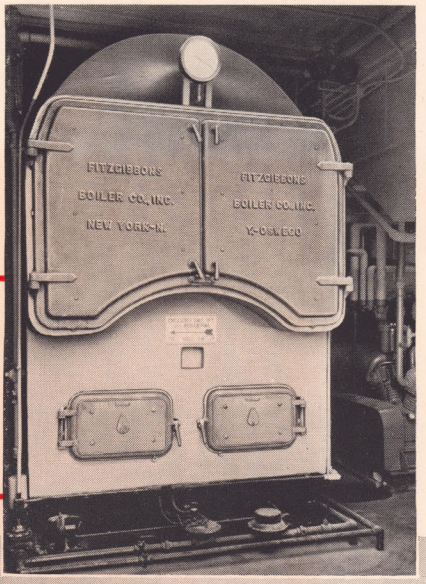
"D"—Where Fitzgibbons Tanksaver or Tankheater is used add 3" to Water Line.
Manhole Furnished on DH-85 and Larger Boilers.
Bridge Wall Furnished on DH-60, DB-60 and Larger Boilers.

BOILER NUMBER—COAL BURNING WITH SMOKELESS ARCH	DH-22 DB-22	DH-26 DB-26	DH-30 DB-30	DH-35 DB-35	DH-40 DB-40	DH-45 DB-45	DH-50 DB-50	DH-60 DB-60	DH-70 DB-70	DH-85 DB-85	DH-100 DB-100	DH-125 DB-125	DH-150 DB-150	DH-175 DB-175	DH-200 DB-200	DH-250 DB-250	DH-300 DB-300	DH-350 DB-350
†EDR Rating—SBI (Steam) ....Sq. Ft.	2200	2600	3000	3500	4000	4500	5000	6000	7000	8500	10000	12500	15000	17500	20000	25000	30000	35000
†EDR Rating—SBI (Water) ....Sq. Ft.	3520	4160	4800	5600	6400	7200	8000	9600	11200	13600	16000	20000	24000	28000	32000	40000	48000	56000
B. T. U.	528000	624000	720000	840000	960000	1080000	1200000	1440000	1680000	2040000	2400000	3000000	3600000	4200000	4800000	6000000	7200000	8400000
Net Rating—SBI (Steam) ....Sq. Ft.	1830	2170	2500	2920	3330	3750	4170	5000	5830	7080	8330	10420	12500	14580	16670	20830	25000	29000
Net Rating—SBI (Water) ....Sq. Ft.	2930	3470	4000	4670	5330	6000	6670	8000	9330	11330	13330	16700	20000	23330	26670	33330	40000	46670
B. T. U.	439000	521000	600000	700000	800000	900000	1000000	1200000	1400000	1700000	2000000	2500000	3000000	3500000	4000000	5000000	6000000	7000000
Heating Surface ....Sq. Ft.	158	186	215	250	286	322	358	429	500	608	715	893	1072	1250	1429	1786	2143	2500
Grate Area "SBI" ....Sq. Ft.	8.9	9.7	10.5	11.4	12.2	13.4	14.5	16.4	18.1	20.5	22.5	25.6	28.4	30.9	33.2	37.4	41.2	44.7
Grate Width ....In.	30 3/8	30 3/8	30 3/8	36 3/8	36 3/8	36 3/8	42 3/8	42 3/8	42 3/8	48 1/4	48 1/4	53 1/4	59 1/8	65 1/8	65 1/8	71	77	77
Grate Length ....In.	43 1/4	49 1/4	56 1/4	55 1/4	63 1/4	71	67 1/4	55 3/4	61 3/4	61 1/4	67 1/4	73 1/4	73 1/4	73 1/4	73 3/4	79 1/4	79 1/4	85 1/4
Firebox Width Inside ....In.	30 3/8	30 3/8	30 3/8	36 3/8	36 3/8	36 3/8	42 3/8	42 3/8	42 3/8	48 1/4	48 1/4	53 1/4	59 1/8	65 1/8	65 1/8	71	77	77
Firebox Length Inside ....In.	43 1/4	49 1/4	56 1/4	55 1/4	63 1/4	71	67 1/4	79 1/4	91 3/4	81 3/4	95 3/4	94 3/4	111	100 1/2	115 1/2	137 1/2	128 1/4	150 1/4
Firebox Height Inside ....In.	29 1/2	29 1/2	29 1/2	31 1/4	31 1/4	31 1/4	34	34	34	37 1/2	37 1/2	40 1/4	43	48 3/4	48 3/4	44	46	46
Length 3" Direct Tubes ....In.	29 1/8	35 1/8	42 1/8	41 1/8	49 1/8	56 7/8	53 1/4	65 1/4	78	67 3/4	81 3/4	81 1/4	97 5/8	87 1/8	102 1/8	124 1/8	115	137
Length 3" Return Tubes ....In.	50 1/4	56 1/4	63 1/4	62 1/4	70 1/4	78	74 1/2	86 1/2	99	89	103	103	119 1/2	109	124	146	137	159
A-Width—Inside Diameter of Shell....In.	36	36	36	42	42	42	48	48	48	54	54	60	66	72	72	78	84	84
B-Length Boiler—Overall ....In.	70 1/2	76 1/2	83 1/2	85 1/2	93 1/2	101 1/4	99 3/4	111 3/4	124 1/4	115 1/4	129 1/4	130 1/4	146 3/4	142 1/4	157 1/4	179 1/4	170 1/4	192 1/4
B'-Length Bare Boiler ....In.	49 1/2	55 1/2	62 1/2	61 1/2	69 1/2	77 1/4	73 3/4	85 3/4	98 1/4	88 1/4	102 1/4	102 1/4	118 3/4	108 1/4	123 1/4	145 1/4	136 1/4	158 1/4
C-Height ....In.	77 1/2	77 1/2	77 1/2	85 3/4	85 3/4	85 3/4	90 3/4	90 3/4	90 3/4	101 1/2	101 1/2	112 1/4	115 1/2	124 1/2	124 1/2	123 1/2	134 3/4	134 3/4
D-Water Line (See Note "D")....In.	68	68	68	71 3/4	71 3/4	71 3/4	75 1/4	75 1/4	75 1/4	86	86	95 3/4	97 1/2	104 1/2	104 1/2	103	112 3/4	112 3/4
E-Width Ashpit Depression ....In.	30	30	30	36	36	36	42	42	42	48	48	53	59	65	65	71	77	77
F-Length Ashpit Depression....In.	40 3/8	46 3/8	53 3/8	52 3/8	60 3/8	68 1/8	64 3/8	52 3/8	58 3/8	58 3/8	64 3/8	71	71	71	71	77	77	83
G-Depth Front Smokebox ....In.	9	9	9	10	10	10	11	11	11	12	12	12	12	14	14	14	14	14
H-Depth Rear Smokebox ....In.	12	12	12	14	14	14	15	15	15	15	15	16	16	20	20	20	20	20
J-Floor to C. L. Rear Smoke Outlet....In.	65	65	65	68 3/4	68 3/4	68 3/4	73 3/4	73 3/4	73 3/4	83 1/4	83 1/4	90 3/4	93	103	103	101 1/2	111 1/2	111 1/2
K-Diameter Rear Smoke Outlet ....In.	19	19	19	22	22	22	24	24	24	28	28	30	31	35	35	39	42	42
a-Width Top Smoke Outlet (optional)....In.	10	10	10	12	12	12	12	12	12	14	14	15	15	16	16	16	18	18
aa-Length Top Smoke Outlet (optional)....In.	22	22	22	25	25	25	30	30	30	35	35	37	40	48	48	59	61	61
Steam Opening ....In.	6	6	6	6	6	6	6	8	8	8	8	8	8	8	8	10	10	10
L-Height Steam Opening ....In.	78 1/2	78 1/2	78 1/2	86 3/4	86 3/4	86 3/4	91 3/4	91 3/4	91 3/4	102 1/2	102 1/2	113 1/4	116 1/2	125 1/2	125 1/2	124 1/2	135 3/4	135 3/4
M-Location Steam Opening ....In.	21	24	24	23	26	30	30	30	36	24	24	24	30	30	30	30	30	30
Return Opening ....In.	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	6	6	6
N-Height Return Opening ....In.	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	17 3/4	20 3/4	20 3/4	20 3/4	20 3/4	22	26	26
P-Height 1 1/2" Surface Blowoff ....In.	68	68	68	71 3/4	71 3/4	71 3/4	75 1/4	75 1/4	75 1/4	86	86	95 3/4	97 1/2	104 1/2	104 1/2	103	112 3/4	112 3/4
Q-Location 1 1/2" Surface Blowoff ....In.	25	28	31	31	35	39	37	43	49	44	51	51	59	54	62	73	68	79
Water Column Openings ....In.	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Safety Valve Openings ....No.-In.	1-2	1-2	1-2	1-2 1/2	1-2 1/2	1-2 1/2	1-2 1/2	1-3	1-3	2-2 1/2	2-2 1/2	2-3	2-3	2-3 1-2	2-3 1-2 1/2	2-3 2-2 1/2	4-3	4-3 1-2
R-Base Height ....In.	14	14	14	14	14	14	14	14	14	14	14	17	17	17	17	17	21	21
S-Base Width (Inside) ....In.	36 5/8	36 5/8	36 5/8	42 5/8	42 5/8	42 5/8	48 5/8	48 5/8	48 5/8	54 5/8	54 5/8	60 5/8	66 5/8	72 3/4	72 3/4	78 3/4	84 7/8	84 7/8
T-Base Length (Inside)....In.	49 1/2	55 1/2	62 1/2	61 1/2	69 1/2	77 1/4	73 3/4	85 3/4	98 1/4	88 1/4	102 1/4	102 1/4	118 3/4	108 1/4	123 1/4	145 1/4	136 1/4	158 1/4
U-Foundation Width ....In.	46	46	46	52	52	52	58	58	58	64	64	69	75	81	81	87	93	93
V-Foundation Length ....In.	55	61	68	67	75	83	80	92	104	94	108	108	125	114	129	151	142	164
Firedoor	SINGLE FIREDOOR									TWO FIREDOORS—ONE RIGHT AND ONE LEFT								
W-Firedoor Opening Height ....In.	14	14	14	15	15	15	15	15	15	14	14	14	15	15	15	15	15	15
X-Firedoor Opening Width ....In.	18	18	18	20	20	20	24	24	24	18	18	18	20	24	24	24	24	24
Y-Opened Firedoor to Boiler ....In.	25 1/8	25 1/8	25 1/8	27 1/8	27 1/8	27 1/8	31 1/8	31 1/8	31 1/8	25 1/8	25 1/8	25 1/8	27 1/8	31 1/8	31 1/8	31 1/8	31 1/8	31 1/8
Z-Distance Between Firedoors ....In.										8	8	10	10	10	10	14	18	18
AA-Firedoor Opening to Mud Ring ....In.	6 1/2	6 1/2	6 1/2	7 1/2	7 1/2	7 1/2	8	8	8	8	8	8	8	8	8	8	8	8
Diameter Breeching—One Boiler ....In.	19	19	19	22	22	22	24	24	24	28	28	30	31	35	35	39	42	42
Diameter Stack—One Boiler ....In.	15	16	16	18	18	19	20	21	22	24	26	28	29	31	33	36	38	40
Height Stack—One Boiler ....Ft.	45	50	50	50	55	55	55	60	65	65	70	70	75	75	80	95	95	110
Diameter Breeching—Two Boilers ....In.	23	24	24	26	26	27	30	30	31	34	36	40	41	44	47	50	54	56
Diameter Stack—Two Boilers ....In.	21	22	22	23	24	25	26	28	29	32	34	37	38	41	44	47	50	52
Height Stack—Two Boilers ....Ft.	55	60	60	60	65	65	65	70	75	75	80	80	85	85	90	105	105	120
‡Approximate Covering Surface ....Sq. Ft.	78	83	91	104	114	123	131	147	165	160	182	214	241	265	289	330	345	385
Approximate Shipping Weight—"DH"....Lb.	3600	4000	4500	5100	5600	6200	6700	7800	8800	10200	11500	13600	15700	17600	19500	21200	24400	27500
Approximate Shipping Weight—"DB"....Lb.	3700	4100	4600	5300	5800	6400	6900	8100	9100	10500	11900	14000	16200	18100	20000	22000	25200	28400
§Approximate Addition for Bearing Load....Lb.	2080	2300	2655	3010	3390	3770	4180	4770	5480	6420	7425	9200	10875	11800	13200	17200	19800	22900

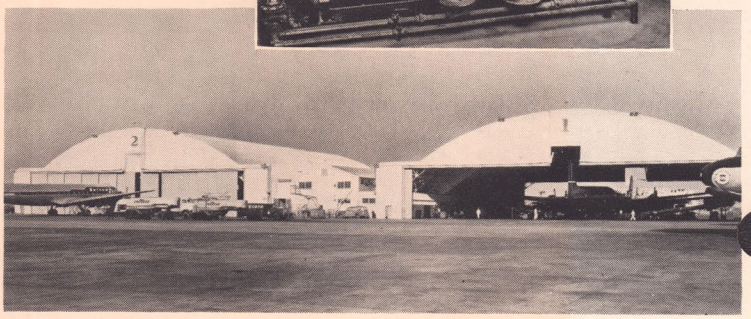
Some typical installations of . . . . .
FITZGIBBONS "D" TYPE STEEL BOILERS

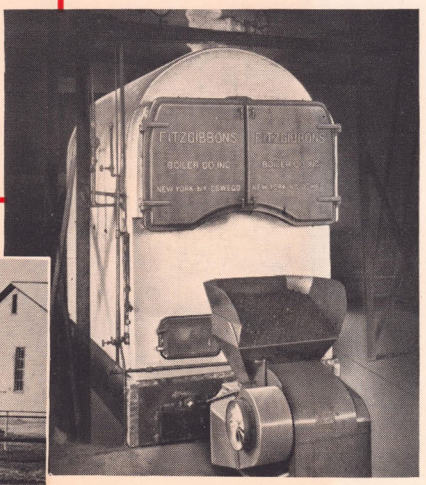


Two oil-fired "D" Type Fitzgibbons boilers in a New Jersey public school.

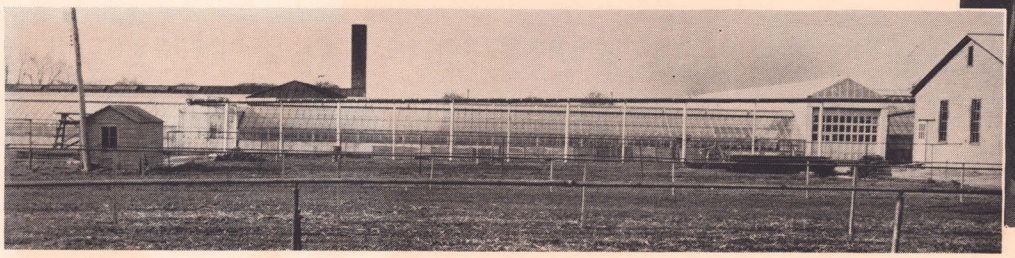


A gas-fired "D" Type installation serving United Air Lines hangars at Mills Field, San Francisco.





A stoker-fired "D" Type boiler in a greenhouse on Long Island.



Fitzgibbons Boiler Company, Inc.

General Offices: 101 PARK AVENUE • NEW YORK 17, N. Y.

Manufactured at OSWEGO, N. Y. • Sales Offices in Principal Cities

MOST ECONOMICAL IN FUEL — 1886 — THE FITZGIBBONS BOILER — REG. U.S. PAT. OFF.

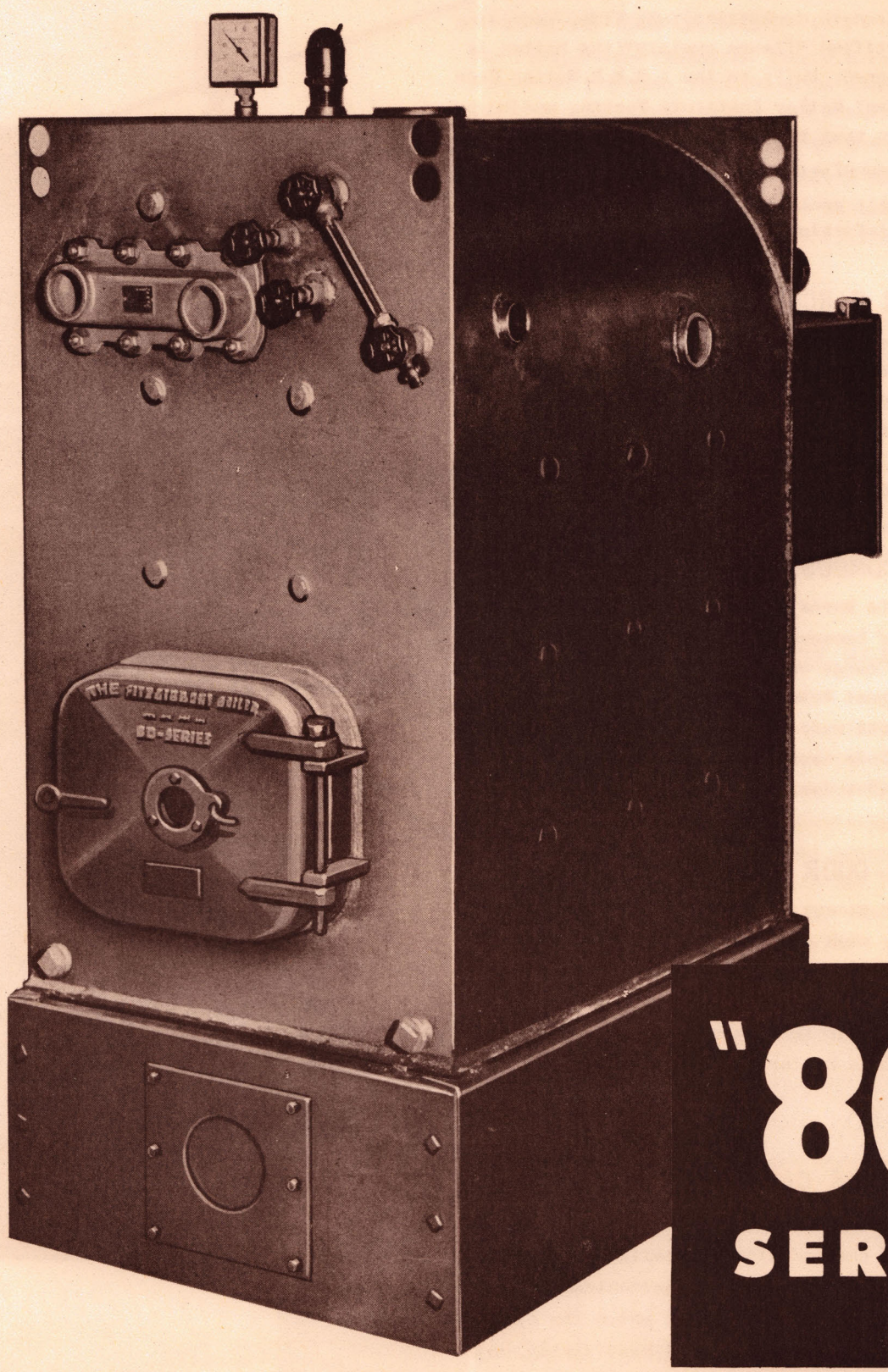
7.5M—3-48

Printed in U.S.A.

THE FITZGIBBONS BOILER

Reg. U. S. Pat. Off.

A.I.A. FILE No. 30-C-1



"80" SERIES

A.I.A. FILE No. 30-C-1

Outstanding features of the FITZGIBBONS "80" SERIES STEEL BOILER

MADE OF STEEL

Steel for welded strength, durability, long life, -providing the steel is of certified "flange quality"; the boiler is scientifically designed; built to the A.S.M.E. Boiler Code and sized to the Steel Boiler Institute Testing and Rating Code. Most important, that the boiler is built by an experienced and reliable manufacturer. The Fitzgibbons Boiler, "80" Series, completely meets all these requirements for maximum heating satisfaction.

FAST WATER CIRCULATION

Rapid internal boiler-water circulation is guaranteed by the full-length firebox crown sheet directly over the hottest furnace temperatures. Fast water currents are projected upward sweeping over the numerous heat-carrying boiler tubes. Quick circulation means efficient heat absorption and fuel saving.

COMPLETE COMBUSTION

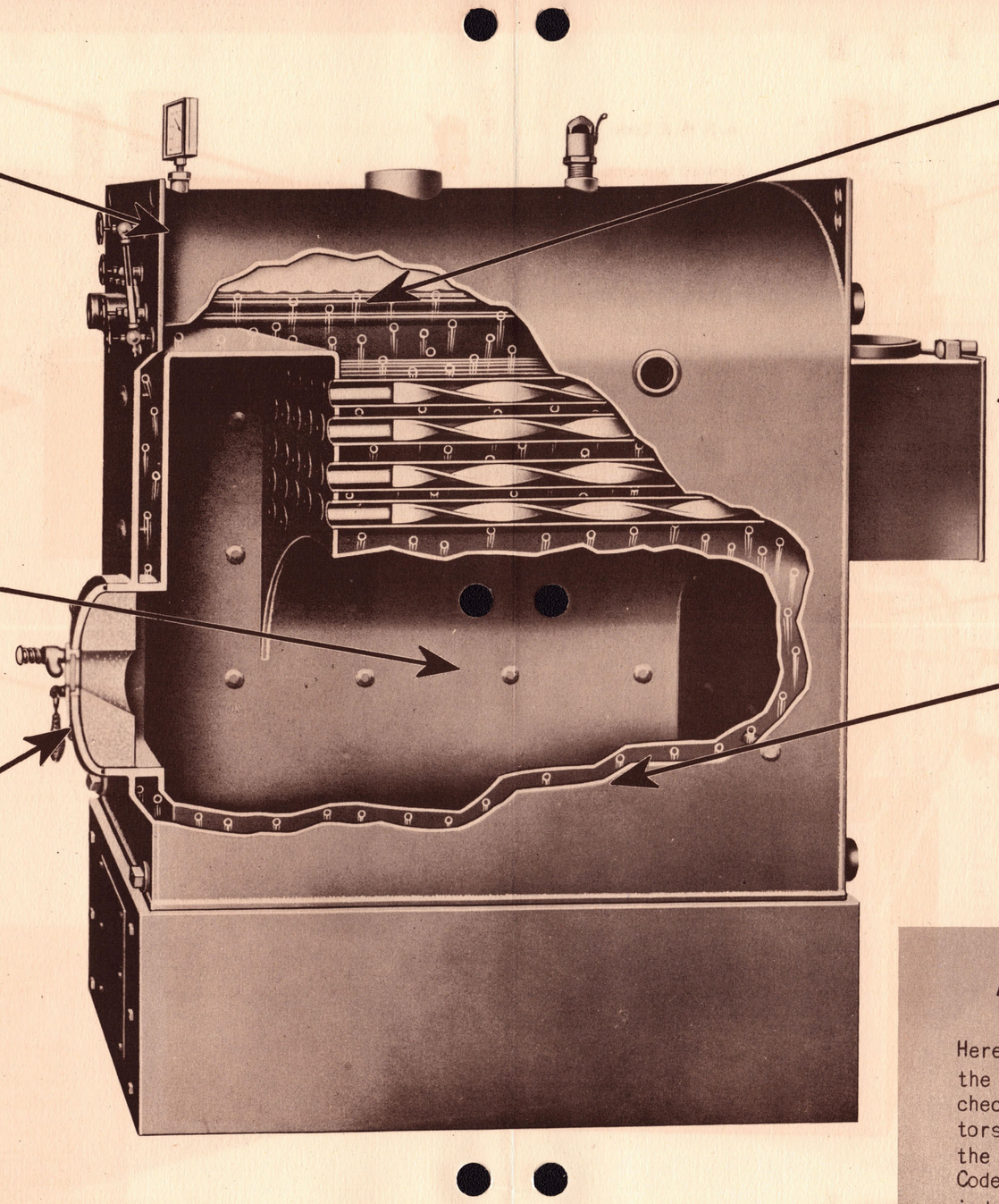
Oil, Gas or Anthracite burns completely in the "80" Series with high efficiency because of the generous dimensions of the firebox volume. Large burning space means high furnace temperatures, quick heat transfer, high economy in fuel and absence of soot. Tests made in accordance with the S.B.I. Testing and Rating Code have proven the correctness of the Fitzgibbons Firebox design.

LARGE FIRE-DOOR - ASBESTOS SEALED

12" X 15", -ample for access to the firebox. The right size for easy coal-firing when grates are used. The edge, asbestos-sealed against a heavy water-cooled steel fire-door ring and securely locked with a spring-locked latch. Assures a tight fit against leakage of soot or air. A feature of the Fitzgibbons Boiler contributing to owner's satisfaction.

VARIOUS FUELS CAN BE BURNED

Designed to get best results with <u>any</u> firing method, -and the fuel can even be changed after installation. The picture shows the boiler as supplied for mechanical firing, with front base-plate bolted on, through which the oil, gas burner or stoker is installed. For coal, hand-firing, the base is supplied with rocking grates for anthracite; ash pit door with adjustable draft control; standard cataloged trimmings and firing tools.



ABUNDANT DOMESTIC HOT WATER, WINTER AND SUMMER

The Fitzgibbons TANKSAVER (Reg. U.S. Pat. Off.) internally supported provides instantaneous domestic hot water <u>without a storage tank,</u> winter and summer, up to 750 gallons per hour! The "80" Series boiler and Tanksaver are especially suited for quick, economical water for as many as 50 families and for 36 machine automatic-laundries. Where storage tanks are required the Fitzgibbons Tankheater is available.

EASY CLEANING OF ALL TUBES AND COMBUSTION SURFACES

Hinged, gasketed rear smokebox door makes the fire tubes accessible for a quick cleaning job with the steel flue brush. This easy and convenient way of keeping the "80" Series boiler in prime condition helps give top fuel savings.

WATER-COOLED FIREBOX HEATING SURFACES

The entire firebox is surrounded on <u>all sides</u> by a heat-absorbing water-wall constantly circulating from the rear of the boiler, upwardly, toward the front and over the tubes above. Thus the boiler water is progressively heated in its circulation. Note particularly that the front door is located, low and at the right height, to provide water-cooled heating surface opposite the front tube ends -- the hottest part of the firebox, there is no door-warping or heat-wasting air and gas leakage.

ALL THESE FEATURES COMBINE FOR QUICK HEATING, FUEL SAVING, AND LONG LIFE

Here is a truly "balanced" new boiler by Fitzgibbons, with the strength and construction advantages of steel, closely checked for A.S.M.E. Code adherence by insurance inspectors. Perfect combustion and high efficiency result from the correctly designed combustion area prescribed by S.B.I. Code standards. Rapid, positive free water circulation is induced by scientific engineering design. These are the Fitzgibbons Principles which make the Fitzgibbons "80" Series Boiler a high point in steel boiler progress.

THE FITZGIBBONS BOILER

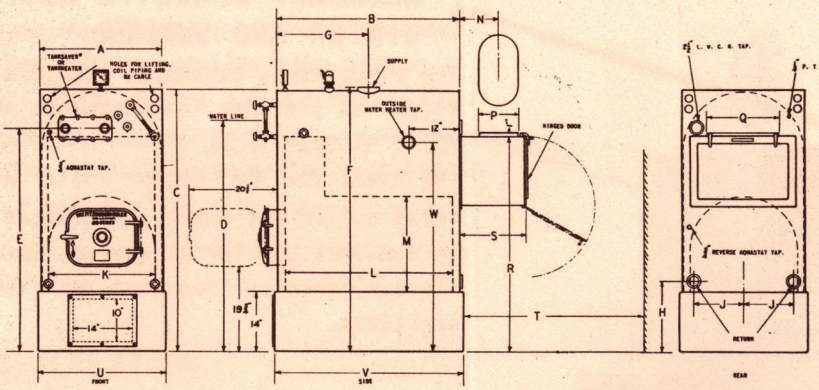
Reg. U. S. Pat. Off.

"80" SERIES

15 lbs. Steam

30 lbs. Water

60 lbs. Hydro-static Test



A. S. M. E. Code

Hartford Inspected

S.B.I. Rated

OIL - GAS - STOKER

BOILER NUMBER		OE-111	OE-113	OE-115	OE-118	OE-122	OE-126	OE-130
SBI NET RATING - STEAM	SQ. FT.	1100	1300	1500	1800	2200	2600	3000
- WATER	SQ. FT.	1760	2080	2400	2880	3520	4160	4800
BTU PER HOUR	1000'S	264	312	360	432	528	624	720
HEATING SURFACE - "SBI" MIN.	SQ. FT.	65	77	88	106	129	153	177
FURNACE VOLUME -- "SBI" MIN.	CU. FT.	10.0	11.8	13.6	16.4	20.0	23.6	27.3
FURNACE VOLUME ABOVE BOT. BLR.	CU. FT.	10.5	12.1	14.0	16.7	21.5	24.9	27.3
A - BARE BOILER - WIDTH	IN.	28 1/4	28 1/4	28 1/4	28 1/4	33	33	33
B - BOILER SHELL - LENGTH	IN.	36 1/2	42 1/2	49 1/2	59 1/2	50 1/2	59 1/2	65 1/2
C - HEIGHT	IN.	61	61	61	61	71	71	71
D - WATER LINE	IN.	53 5/8	53 5/8	53 5/8	53 5/8	61 1/2	61 1/2	61 1/2
E -*TANKSAVER OR TANKHEATER - HEIGHT C/L	IN.	51 7/8	51 7/8	51 7/8	51 7/8	59 5/8	59 5/8	59 5/8
F - SUPPLY - HEIGHT	IN.	61 5/8	61 5/8	61 5/8	61 5/8	71 3/4	71 3/4	71 3/4
G - SUPPLY - LOCATION	IN.	18	18	18	18	21	21	21
H - RETURN - HEIGHT C/L	IN.	16 1/2	16 1/2	16 1/2	16 1/2	17	17	17
J - RETURN - LOCATION	IN.	11 1/2	11 1/2	11 1/2	11 1/2	13 3/4	13 3/4	13 3/4
K - FIREBOX WIDTH INSIDE	IN.	23 1/2	23 1/2	23 1/2	23 1/2	28 1/4	28 1/4	28 1/4
L - FIREBOX LENGTH INSIDE	IN.	32 1/4	38 1/4	45 1/4	55 1/4	46 1/4	55 1/4	61 1/4
M - LOWER CROWN HEIGHT	IN.	22 1/4	22 1/4	22 1/4	22 1/4	26	26	26
N - UPTAKE - LOCATION	IN.	9	9	9	9	10 1/2	10 1/2	10 1/2
P - UPTAKE - WIDTH	IN.	9	9	9	9	12	12	12
Q - UPTAKE - LENGTH	IN.	16 1/2	16 1/2	16 1/2	16 1/2	21	21	21
R - UPTAKE - HEIGHT	IN.	48 7/8	48 7/8	48 7/8	48 7/8	56 1/2	56 1/2	56 1/2
S - SMOKEBOX - DEPTH	IN.	15	15	15	15	18	18	18
T - MINIMUM REQUIRED CLEARANCE	IN.	26	32	39	49	37	46	52
U - BASE WIDTH	IN.	29 3/4	29 3/4	29 3/4	29 3/4	34 1/2	34 1/2	34 1/2
V - BASE LENGTH	IN.	38 1/2	44 1/2	51 1/2	61 1/2	52 1/2	61 1/2	67 1/2
W - WATER HEATER TAP - HEIGHT	IN.	48 3/4	48 3/4	48 3/4	48 3/4	56 1/2	56 1/2	56 1/2
SUPPLY	IN.	4	4	4	4	6	6	6
RETURN	IN.	2-2 1/2	2-2 1/2	2-2 1/2	2-2 1/2	2-3	2-3	2-3
SAFETY VALVE OPENING	IN.	1 1/4	1 1/4	1 1/2	1 1/2	2	2	2
WATER HEATER TAP	IN.	2 1/2	2 1/2	2 1/2	2 1/2	3	3	3
FIREDOOR OPENING	IN.	12 X 15	12 X 15	12 X 15	12 X 15	12 X 15	12 X 15	12 X 15
STACK - DIAM.	IN.	11	12	12	12	14	15	16
STACK - HEIGHT - MECH. FIRED	FT.	35	35	40	40	40	40	45
BREECHING - DIAM.	IN.	13	14	14	14	16	17	18
COVERING SURFACE	SQ. FT.	42	47	53	60	67	75	80
WEIGHT - UNJACK. - MECH. FIRED	LBS.	1500	1650	1830	2125	2400	2700	2900
WEIGHT - JACK.	LBS.	1850	2060	2300	2450	2750	3100	3350

HAND - FIRED — ANTHRACITE TYPE COALS ONLY

BOILER NUMBER (SEE ABOVE FOR DIMENSIONS)		OE-111 HF	OE-113 HF	OE-115 HF	OE-118 HF	OE-122 HF	OE-126 HF	OE-130 HF
SBI NET RATING - STEAM	SQ. FT.	910	1080	1230	1480	1810	2140	2480
- WATER	SQ. FT.	1450	1720	1970	2370	2890	3430	3970
BTU PER HOUR	1000'S	218	259	295	355	434	514	595
GRATE AREA - "SBI" MIN.	SQ. FT.	4.9	5.7	6.3	7.2	8.4	9.4	10.5
STACK - DIAM.	IN.	11	12	12	12	14	15	16
STACK - HEIGHT	FT.	40	40	45	45	45	50	55
BREECHING - DIAM.	IN.	13	14	14	14	16	17	18
SHIPPING WEIGHT - UNJACK.	LBS.	1825	2025	2275	2650	2925	3300	3600

* Reg. U. S. Pat. Off

Reg. U.S. Pat. Off.

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

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MEMBER

Reg. U.S. Pat. Off.

10-48-10M

FITZGIBBONS 400 SERIES

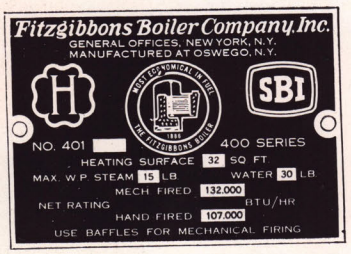
A-I-A File No. 20-C-1

THE STEEL BOILER THAT CUTS THE COST OF COMFORT

FITZGIBBONS 400 SERIES

How to be SURE about the boiler you select

In buying an article of solid silver, the first thing you do is to *look for the "sterling" mark.* Most steel boilers also bear "sterling" marks for your protection . . . On any boiler you buy, look for the clover-leaf which means that the boiler is built to the standards of the American Society of Mechanical Engineers . . . Look, too, for the "S.B.I." symbol of the Steel Boiler Institute, which means—that the boiler *will give the heat its rating calls for* . . . Finally, look for the mark of the Hartford Steam Boiler Insurance Company, whose representative OK's every Boiler that leaves our plant. These are the "sterling" marks of the steel boiler industry . . . all three are on every "400 Series" Fitzgibbons steel boiler.



The "400 SERIES" gives you automatic heat with any firing unit

Is oil your choice for fuel? Gas? Stoker? Hand Fired Coal? The Fitzgibbons "400 Series" operates equally well with any of these. Your heating contractor can supply you with a Fitzgibbons "400 Series" complete with the Fuel burning equipment of your selection. Should conditions some day make a change of fuels desirable, you can change fuels in your Fitzgibbons boiler quickly at minimum cost.

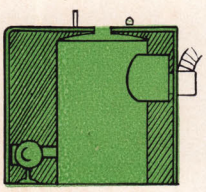
Makes fuel go farther by exceptionally rapid heating

When your room thermostat says "go" the boiler quickly starts sending up heat, normally satisfying the thermostat in a very few minutes. The obvious result is shorter periods of burner operation, and thus *less fuel burned* over the heating season. This quick heating is a famous Fitzgibbons characteristic. *More* of the heat from the fuel goes to aid your comfort, instead of going to waste up the chimney.

Makes installation speedy and servicing easy

The "400 Series" is a one-piece welded steel unit — no sections to cement and bolt together—no troublesome joints to make tight. And the insulated jacket may be attached in a matter of minutes . . . Periodical boiler servicing is easy too—jacket panels over burner and all controls, come off in a jiffy. Service men like "400 Series" boilers.

The attractive jacket encloses and protects the burner and all controls



Dust, dirt, prying fingers, carelessly wielded brooms, etc., are not dangerous to controls and delicate burner parts in a Fitzgibbons "400 Series." The jacket covers them all. It is of heavy gauge metal, accurately fitted. The outside finish is green enamel baked on for an enduring surface that will never crack or peel. An asbestos blanket, shipped with the jacket is quickly applied to the boiler.

Provides year-round domestic hot water without a storage tank

Instantaneous clean, rustless, low-cost hot water for laundry or baths, flows from a copper coil submerged in the boiler water. This is the Fitzgibbons Tanksaver* which heats the water as you use it, in July as well as in January. If you have a storage tank, the Fitzgibbons Tankheater will keep it supplied. Either the Tanksaver or Tankheater may be installed in the boiler when shipped.

*Reg. U. S. Pat. Off.

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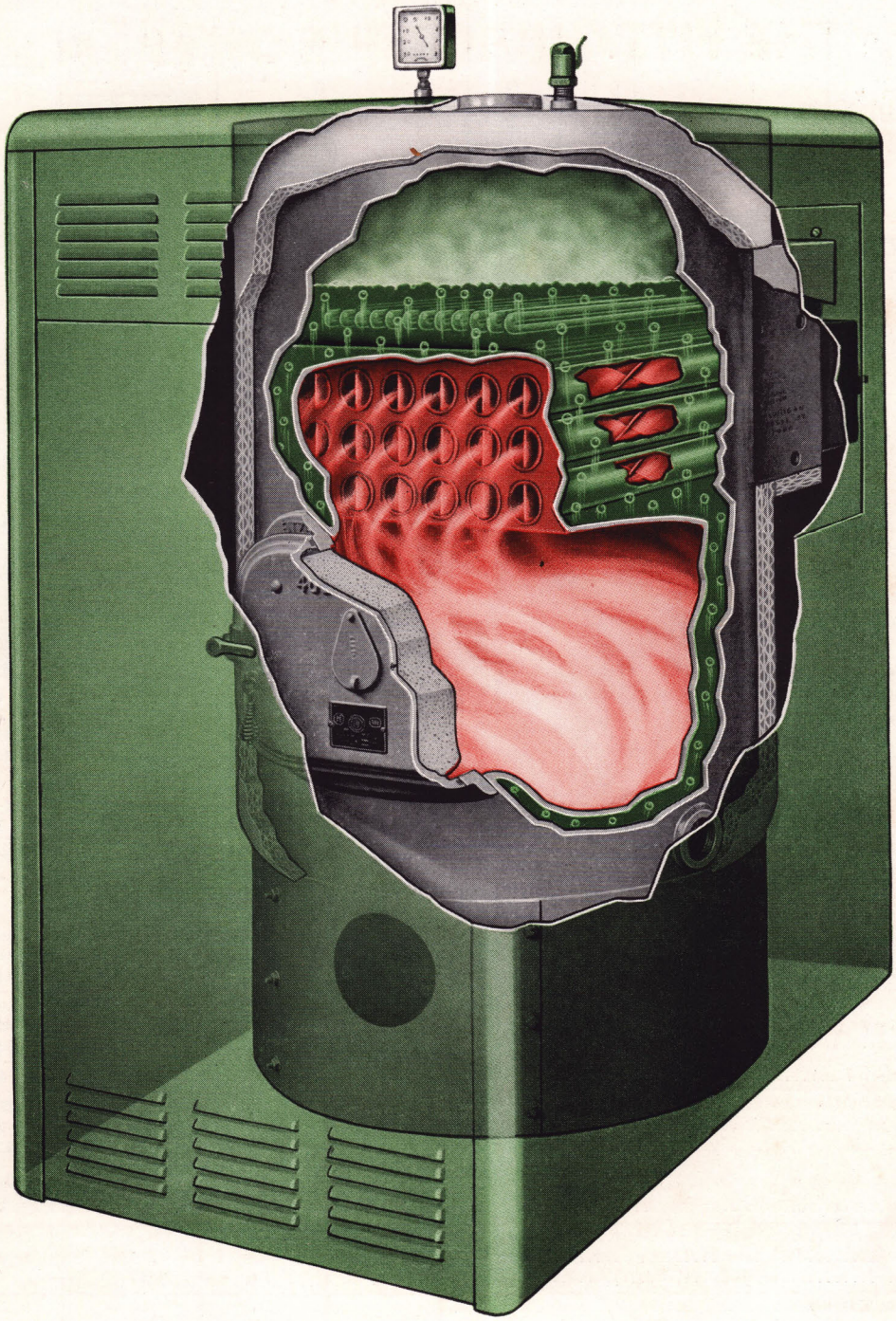
Steel
The boiler that makes fuel do more



The FITZGIBBONS 400 SERIES brings the maximum of heating comfort to any home . . . and the maximum of buying urge to any prospective home purchaser.

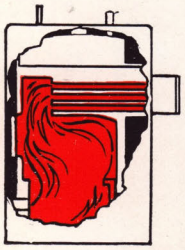
...and makes comfort cost less

Here's why THE FITZGIBBONS BOILER* saves fuel

The FITZGIBBONS "400 series" is a STEEL boiler

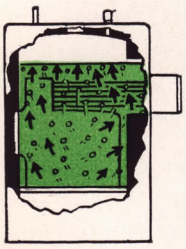
It is of the same material, designed on the same principles, as the boilers of steamships, locomotives, huge power stations. In other words it is most economical, fast steaming and enduring. Steel is the strongest, most ductile of boiler metals, and one which can be fashioned, shaped, formed and fabricated just as the designer wishes. There are of course differences in steel. Make sure you're getting *boiler-plate steel of flange quality* by looking for the "sterling" marks.

The COMBUSTION AREA is *RIGHT* in form



Good combustion requires the complete mixing of air and combustible gases. The shape and size of the combustion area is the vital factor. In the "400 Series" this area is so formed that it sets up a violent swirling flow which intimately mixes gases and air, causing the complete burning of all combustible particles. In the "400 Series" you get *all* the heat of which your fuel is capable.

POWERFUL WATER CIRCULATION —another vital factor

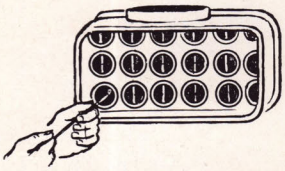


In the Fitzgibbons "400 Series" the arrangement of water surfaces induces a surging sweep of water from the return, past the sidewalls, and up around the fire tubes which break up the flow, causing exceptionally rapid transfer of heat. This is another reason for the quick pick-up of the heating load and the fuel saving which all "400 Series" owners enjoy.

The TANKSAVER* provides abundant domestic hot water

There is no need for a storage tank when you use the FITZGIBBONS "TANKSAVER"*. In winter, domestic water is heated simultaneously with the house heating system. In summer, the burner can be regulated for the desired boiler water temperature required to heat the domestic hot water supply for kitchen, laundry and baths.

The EASIEST boiler to clean



All boilers require the combustion surfaces to be cleaned occasionally, to remove any deposit of ash or soot. The ease with which a boiler can be cleaned is a measure of its service-giving satisfaction. In this essential the "400 Series" is unsurpassed, every square inch of heating surface in combustion chamber and fire tubes being easily reached for brushing through the ample front and rear openings. Also the internal surfaces can be easily flushed and all silt and muck removed.

★ ★ ★

In a "400 SERIES" BOILER, you're getting over SIXTY YEARS of "KNOW-HOW"

—years during which Fitzgibbons has constantly added knowledge to knowledge, on how to make *good* steel boilers *better*. In this long period literally thousands of Fitzgibbons steel boilers have left our plant and the performance of every one of them has had something to do with making the "400 Series" an effective and economical comfort-producer.

*Reg. U. S. Pat. Off.

There is a FITZGIBBONS engineer near you to aid in the selection of the boiler you need, and to insure that it serves you well.

Let us put you in touch with him.

The steel boiler that's as modern as tomorrow

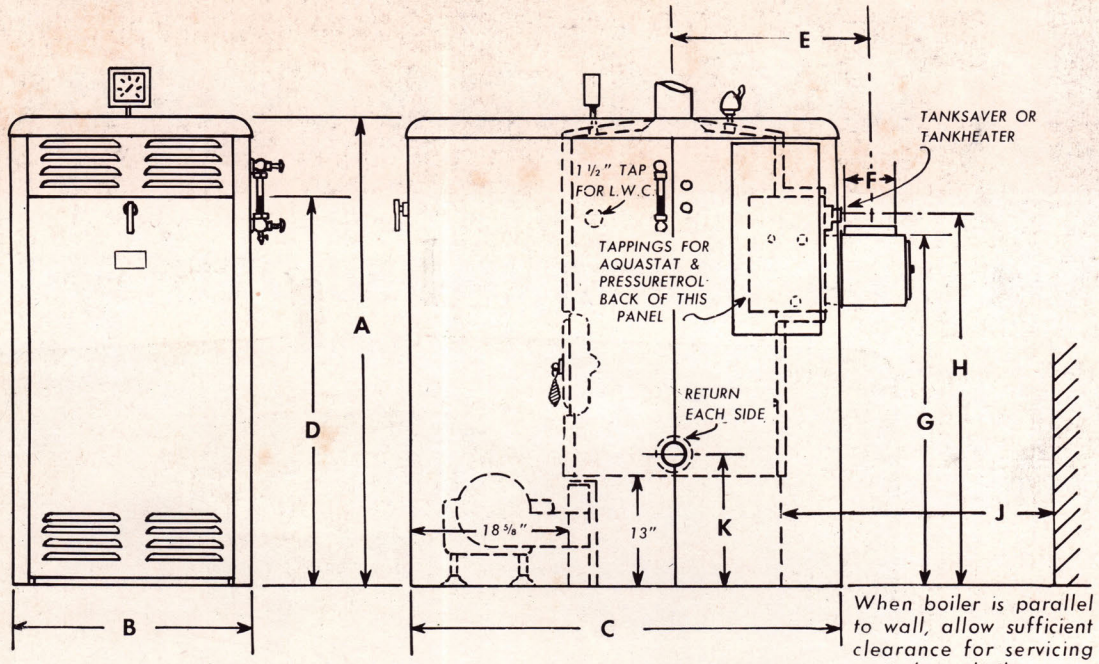
The ultimate in economical radiator heat for small and medium size homes and for larger installations where climate requires relatively moderate boiler capacity.

15 lbs. Steam **FITZGIBBONS — 400 SERIES — STEEL BOILER** 30 lbs. Water

A.S.M.E. Constructed

S.B.I. Rated

Hartford Inspected



When boiler is parallel to wall, allow sufficient clearance for servicing controls on boiler.

BOILER NUMBER	320	400	401	402	403
SPECIFICATIONS (Automatic Firing) *Rating Net Load (Actual Radiators) (For Domestic Hot Water, see below)					
Steam (S.B.I. Net Rating) sq. ft.	320	400	550	700	900
Hot Water (S.B.I. Net Rating) sq. ft.	512	640	880	1120	1440
B. T. U. per hour 1000's	77	96	132	168	216
Oil Fuel Input gals, per hour	1.2	1.4	1.8	2.3	3.0
Gas Fuel Input 1000 BTU's per hour	137	171	230	290	384
Stoker Fuel Input lbs coal per hour	13.1	16.4	22.2	27.9	36.9
Heating Surface sq ft	19	24	32	41	53
Firebox Volume above mud ring cu. ft.	2.9	4.0	5.4	7.5	8.4
Firebox Height above base in.	17¾	19¾	19½	21½	23½
Firebox Diameter in.	18⅜	20⅜	23⅜	26⅝	26⅝
Outlet Size in.	3	3	4	4	4
Return Size in.	2–2	2–2	2–2	2–2	2–2½
Safety Valve Size in.	1	1	1	1	1
Chimney Size in.	8 x 8	8 x 8	8 x 12	8 x 12	10 x 10
Chimney Height ft.	25	30	30	35	40
DIMENSIONS					
Bare Boiler Height, (without base) in.	39½	41½	42	46¼	49⅞
Bare Boiler Width, Overall (including return flanges) in.	23	25	28	31¼	31¼
Bare Boiler Length, Overall in.	29½	29½	32½	34⅛	38⅛
A. Height Overall, Jacketed in.	52½	54½	55	59¼	62⅞
B. Width Overall, Jacketed in.	25¾	27½	30½	33¾	33¾
C. Length Overall, Jacketed in.	50	50	53	54⅝	57⅞
D. Waterline Height in.	42	44	45	47	50⅝
E. Smoke Outlet to Boiler, Center to Center in.	24⅛	23⅛	25⅝	25⅝	28⅞
F. Smoke Outlet Diameter in.	7	7	9	9	9
G. Smoke Outlet Height in.	38¾	40¾	41¾	43¾	47¼
H. Water Heater, 1-inch Connection, C/L, Height from floor in.	41	43	44	46	49⅝
J. Boiler Base to Wall, minimum in.	30	30	36	36	43
K. Height of Returns in.	15½	15½	15½	15½	15¾
Clear Opening in Base Front in.	12¼ x 15	12¼ x 15	12¼ x 15	12¼ x 15	12¼ x 15
Boiler Base Diameter in.	22¾	24¾	27¾	31	31
Boiler Base Height in.	13	13	13	13	13
Boiler Surface to Cover, Unjacketed sq. ft.	21	24	28	33	37
Shipping Weight, Unjacketed lbs.	650	800	920	1130	1400
Shipping Weight with Enclosing Jacket lbs.	830	1050	1200	1450	1700

*Domestic Hot Water load NOT included in net load rating and must be added to standing radiation before selecting boiler size.

MEMBER

STEEL BOILER INSTITUTE · SBI · HEATING · PROCESS · POWER

Reg. U. S. Patent Off.

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

1st Re. Printed in U.S.A.—3-48-15M

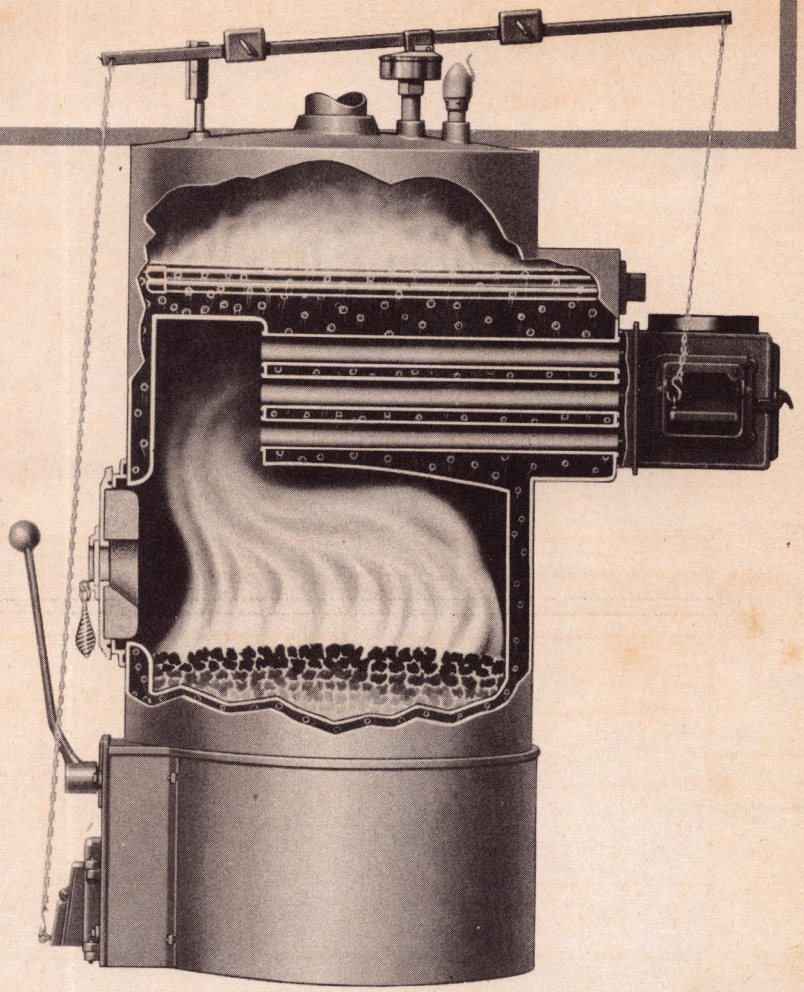
MOST ECONOMICAL IN FUEL · 1886 · THE FITZGIBBONS BOILER

Reg. U. S. Patent Off.

THE FITZGIBBONS BOILER

Reg. U. S. Pat. Off.

"400" SERIES HAND FIRED COAL



FITZGIBBONS DESIGN INSURES QUICK, EVEN HEATING

A feature which distinguishes all Fitzgibbons steel boilers. A carefully balanced combination of grate and firebox design, flue area, water circulation and steam space. This balance gives maximum quick heating and fuel saving.

THIS BOILER SAVES ON INSTALLATION AND FUEL

The "400" Series boiler is built throughout of tough, "boiler-plate" STEEL, fabricated into a one-piece unit by electric welding. The boiler comes to the job complete—no heavy sections to bolt and cement together—will pass through any 30-inch doorway, and can be handled and located easily.

EASY CLEANING—A MOST VALUABLE FEATURE

There are no twisted, hard-to-reach flue surfaces in the "400" Series. All combustion surfaces are easily accessible, and the straight tubes, each cleaned by a single pass of the wire brush, supplied with the boiler, make thorough cleaning of the "400" Series a matter of minutes. A Fitzgibbons boiler is always at its best.

GIVES DOMESTIC HOT WATER TOO!

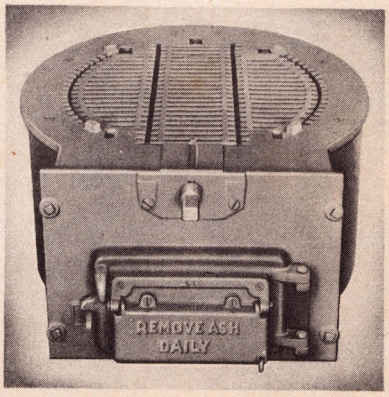
At reasonable extra cost, the boiler can be furnished with a TANKHEATER—a copper coil submerged in the boiler water for hot water storage tank supply. In many cases, where conditions admit, the Fitzgibbons TANKSAVER (Reg. U. S. Pat. Off.) can be supplied, for instant hot water with no storage tank needed

CONVERTIBLE TO AUTOMATIC HEAT WITH ANY FUEL

The "400" Series design is adaptable to firing with oil or gas, as well as automatic coal stoker. The change can be made at any time, easily and quickly. This is one of the most valuable features of the Fitzgibbons "400" Series steel boiler

THE FITZGIBBONS GRATE

The efficiency of the "400" Series hand-fired boiler begins at the grate. Its quarter-inch spacing permits the use of economical small-sized coals. The operation of the shaker handle rocks the entire grate, cleaning the entire fire area.



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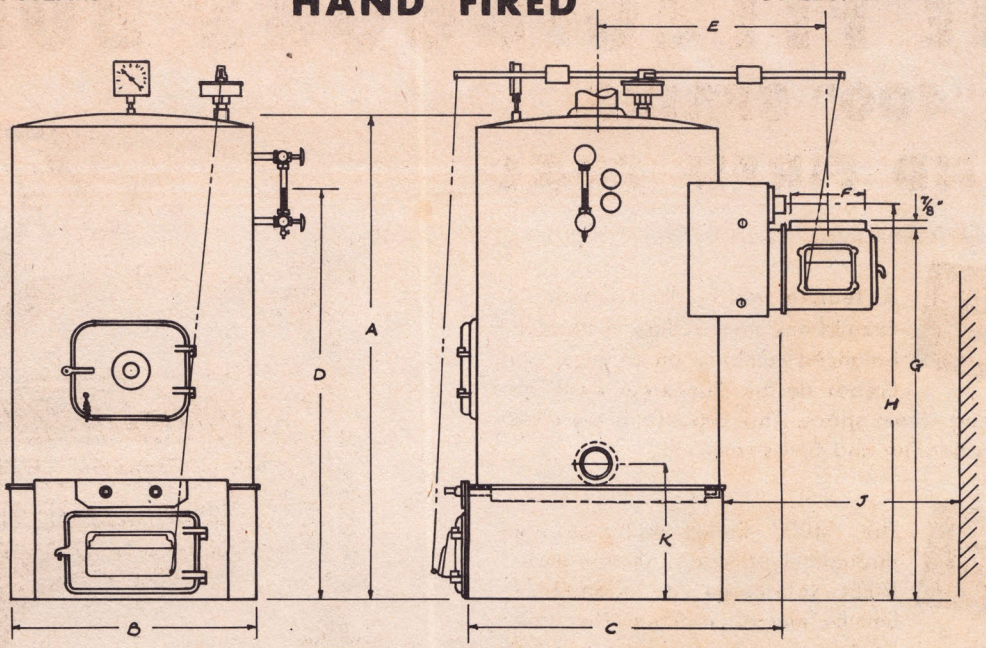
A.S.M.E. Constructed
S.B.I. Rated
HARTFORD Inspected

MOST ECONOMICAL IN FUEL
1886
THE FITZGIBBONS BOILER

THE STEEL BOILER THAT MAKES ANY FUEL GO FURTHER

The FITZGIBBONS "400" SERIES STEEL BOILER

15 LBS. STEAM — **HAND FIRED** — 30 LBS. WATER



BOILER NUMBER	400 HF	401 HF	402 HF
SPECIFICATIONS *Rating Net Load (Actual Radiators) (for Domestic Hot Water, see below)			
Steam (S.B.I. Net Rating) sq. ft.	336	450	560
Hot Water (S.B.I. Net Rating) sq. ft.	540	720	896
Heating Surface sq. ft.	24	32	40
Grate Area sq. ft.	2.26	2.97	3.87
Firebox Diameter in.	20⅜	23⅜	26⅜
Chimney Size in.	8 x 8	8 x 12	8 x 12
Chimney Height ft.	35	40	45
Boiler Outlet Size in.	3	4	4
Boiler Return Size in.	2—2	2—2	2—2
Safety Valve Size in.	1	1	1
DIMENSIONS			
Boiler Shell Diameter in.	24	27	30¼
Boiler Shell Height (without Base) in.	41½	42	46¼
A. Height Overall in.	54½	55	59¼
B. Width Overall in.	25	28	31¼
C. Length Overall in.	32⅛	35⅛	36¾
D. Water Line in.	44	45	47
E. Smoke Outlet to Boiler, Center to Center in.	23⅛	25⅝	25⅝
F. Smoke Outlet Diameter in.	7	9	9
G. Smoke Outlet Height in.	40¾	41¾	43¾
H. Water Heater, 1-inch connection, C/L, Height from floor, in.	43	44	46
J. Boiler Base to Wall, minimum in.	32	36	36
K. Height of Returns in.	15½	15½	15½
Base Diameter in.	24¾	27¾	31
Base Height in.	13	13	13
Floor to Furnace Door Opening in.	21	21	21
Boiler Surface to Cover sq. ft.	24	28	33
Shipping Weight lbs.	880	1040	1280

* Domestic Hot Water load NOT included in net load rating and must be added to standing radiation before selecting boiler size.

STANDARD EQUIPMENT

FURNISHED WITH EACH BOILER: Base, rocking grates; shaker handle
TRIMMINGS—STEAM: Steam gauge, water gauge glass; tri-cocks; safety valve and damper regulator assembly
HOT WATER: Altitude gauge and thermometer; damper regulator assembly
TOOLS: Poker, hoe, flue brush and rod

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

MEMBER STEEL BOILER INSTITUTE SBI HEATING · PROCESS · POWER

Reg. U.S. Pat. Off.

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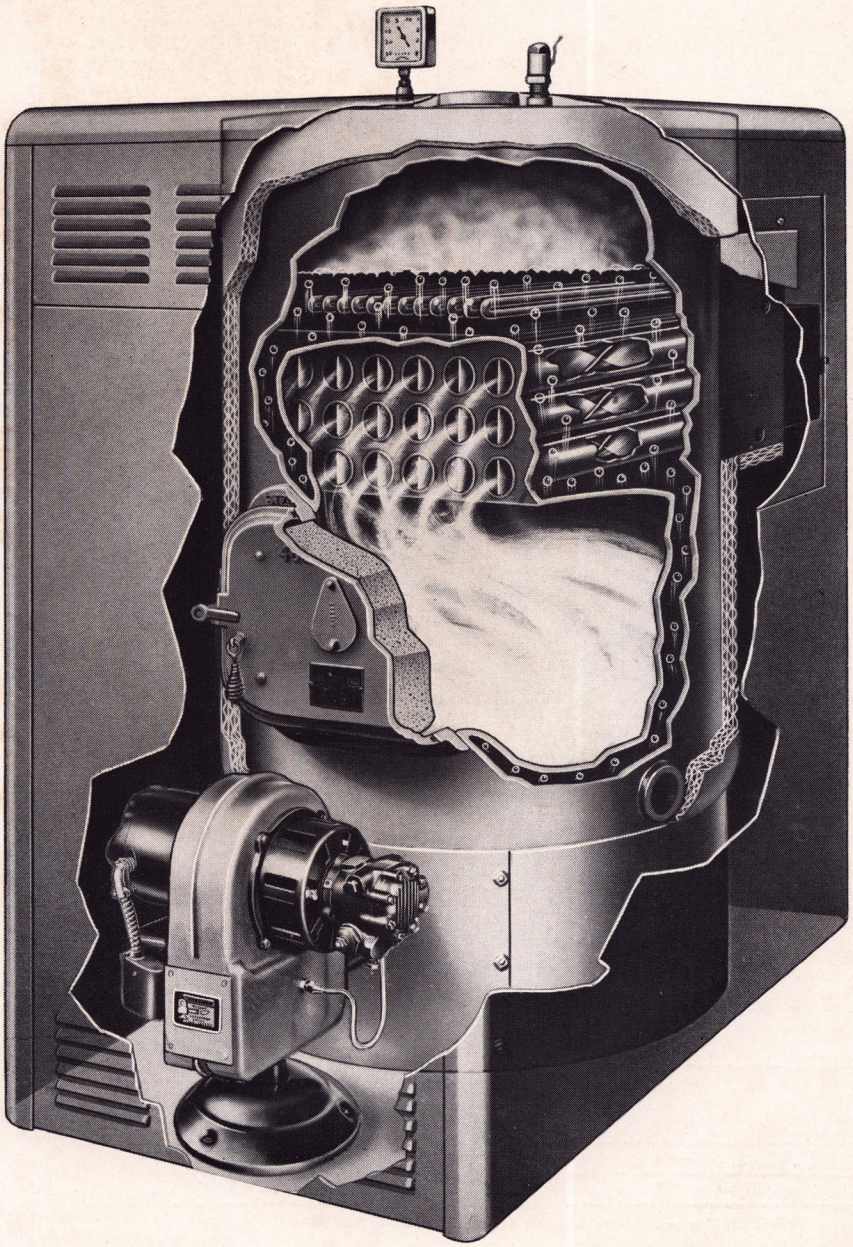
MOST ECONOMICAL IN FUEL — THE FITZGIBBONS BOILER — 1856

Reg. U.S. Pat. Off.

THE FITZGIBBONS "400" SERIES

steel boiler-burner unit



Note the neat, compact arrangement of boiler and burner. The front panel of the jacket is quickly removable for easy servicing.

FITZGIBBONS now confirms its leadership in the residential steel boiler industry by presenting in cooperation with one of America's foremost manufacturers of quality oil burners, the famous FITZGIBBONS "400" SERIES as a BOILER-BURNER UNIT.

This matched team of the Fitzgibbons "400" series steel boiler, and its specially selected oil burner of proven performance, is sold as a single unit which may be depended upon to provide the utmost in comfort, convenience and fuel saving.

Design and construction of this unit are proven superior by over 100,000 installations of Fitzgibbons residential steel boilers. The "400" Series is the steel boiler-burner unit that makes comfort cost less. It brings you the quick-heating qualities of steel construction particularly desirable for intermittent oil burner operation. The result is that it shortens the periods of burner operation and thus reduces fuel bills. With Fitzgibbons steel boilers a better than 30% fuel saving over old-type installations is quite common.

THE Fitzgibbons "400" Series steel boiler is available with the Fitzgibbons "Tanksaver" (Reg. U. S. Pat. Off.) for year-round domestic hot water supply without the need of a storage tank.

Complete specifications are given on the reverse side of this sheet.

Copyright Fitzgibbons Boiler Company, Inc., New York, 1948

15 lbs. Steam

FITZGIBBONS — "400" SERIES BOILER-BURNER UNIT

30 lbs. Water

60 lbs. Hydrostatically Tested

A.S.M.E. Code Constructed

•

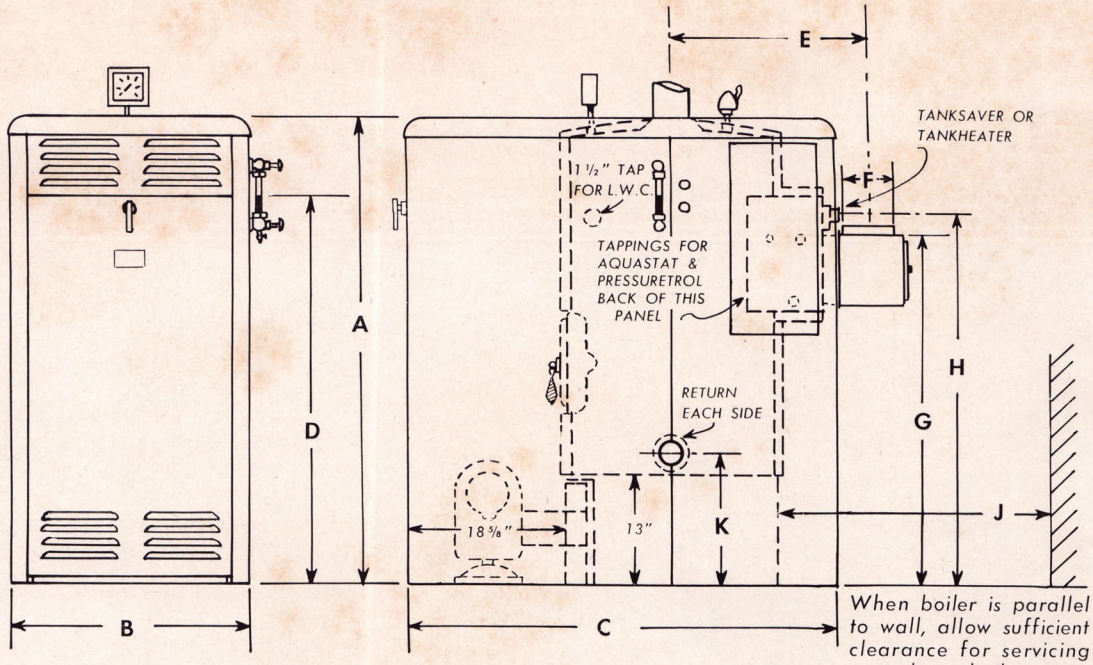
S.B.I. Code Rated

•

Hartford Inspected

•

Burner— Underwriters Approved



When boiler is parallel to wall, allow sufficient clearance for servicing controls on boiler.

BOILER NUMBER	400B	401B	402B	403B
SPECIFICATIONS (BOILER-BURNER UNIT) * Rating Net Load (Actual Radiators and Domestic Hot Water)				
Steam .....(Net Rating) sq. ft.	400	550	700	900
Hot Water .....(Net Rating) sq. ft.	640	880	1120	1440
B. T. U. per hour.....1000's	96	132	168	216
Oil Fuel Input.....gals, per hour	1.4	1.8	2.3	3.0
Heating Surface .....sq. ft.	24	32	41	53
Firebox Height above base.....in.	19¾	19½	21½	23½
Firebox Diameter .....in.	20⅜	23⅜	26⅜	26⅜
Outlet Size .....in.	3	4	4	4
Return Size .....in.	2-2	2-2	2-2	2-2½
Safety Valve Size .....in.	1	1	1	1
Chimney Size .....in.	8 x 8	8 x 12	8 x 12	10 x 10
Chimney Height .....ft.	30	30	35	40
DIMENSIONS				
Bare Boiler Height, (without base).....in.	41½	42	46¼	49⅞
Bare Boiler Width, Overall (including return flanges).....in.	25	28	31¼	31¼
Bare Boiler Length, Overall .....in.	29½	32½	34⅛	38⅛
A. Height Overall, Jacketed .....in.	54½	55	59¼	62⅞
B. Width Overall, Jacketed .....in.	27½	30½	33¾	33¾
C. Length Overall, Jacketed .....in.	50	53	54⅝	57⅞
D. Waterline Height .....in.	44	45	47	50⅝
E. Smoke Outlet to Boiler, Center to Center.....in.	23⅛	25⅝	25⅝	28⅞
F. Smoke Outlet Diameter .....in.	7	9	9	9
G. Smoke Outlet Height .....in.	40¾	41¾	43¾	47¼
H. Water Heater, 1-inch Connection, C/L, Height from floor.....in.	43	44	46	49⅝
J. Boiler Base to Wall, minimum .....in.	30	36	36	43
K. Height of Returns .....in.	15½	15½	15½	15¾
Clear Opening in Base Front.....in.	12¼ x 15	12¼ x 15	12¼ x 15	12¼ x 15
Boiler Base Diameter .....in.	24¾	27¾	31	31
Boiler Base Height .....in.	13	13	13	13
Shipping Weight, Complete Unit with Enclosing Jacket.....lbs.	1150	1300	1550	1800
* Normal Domestic Hot Water load included in net load rating.				

Unit Furnished Complete with Enclosing Jacket, Oil Burner, Combustion Chamber Controls as Listed in Price Sheet

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

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MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

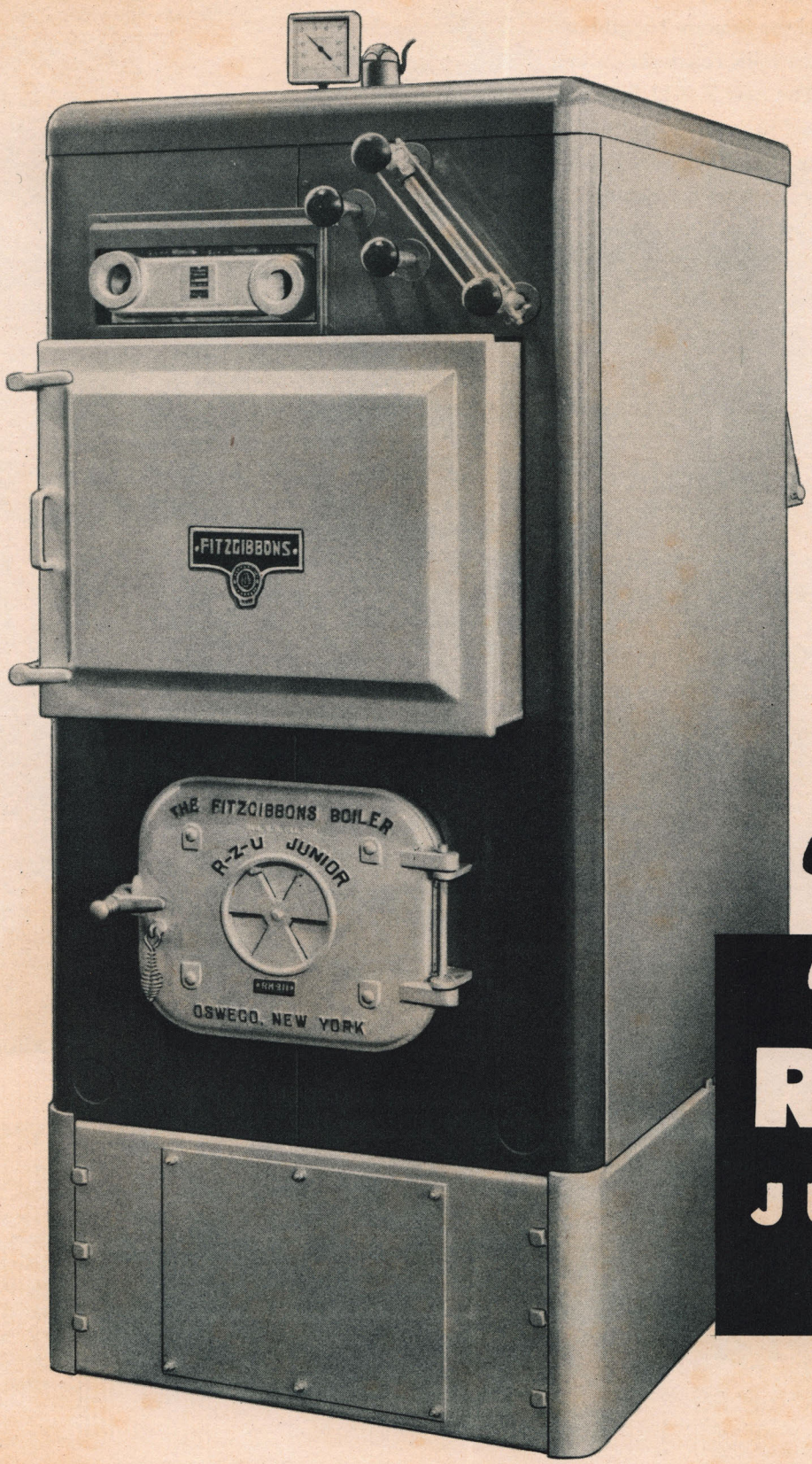
MOST ECONOMICAL IN FUEL 1886 THE FITZGIBBONS BOILER

Reg. U. S. Pat. Off.

THE FITZGIBBONS BOILER

Reg. U. S. Pat. Off.

A.I.A. FILE No. 30-C-1



New

R-Z-U JUNIOR

A.I.A. FILE No. 30-C-1

UP-TO-THE-MINUTE – THE *New* FITZGIBBONS R-Z-U JUNIOR STEEL BOILER

IT HAS EVERYTHING

that heating contractor, architect or owner could want to insure all around satisfaction. Its design is the famous Fitzgibbons R-Z-U Junior—but with new features which serve both construction and convenience, besides improving performance. The new R-Z-U Junior is built of certified "flange quality" steel, constructed in strict accord with the A.S.M.E. Code; hydrostatically tested to 60 lbs. water pressure before leaving factory; rated on the basis of the Steel Boiler Institute Rating Code; inspected by the Hartford Steam Boiler Inspection and Insurance Company. Its quality is further assured by Fitzgibbons sixty-three years of consistent steel boiler development, comprising an authoritative experience which guides every line and dimension of design toward the positive certainty of truly fine boiler performance.

IDEAL FOR STOKER FIRING

Although excellently suitable for oil, gas and anthracite, the requirements of bituminous coal stoker and hand firing have been given special consideration in designing the *New* R-Z-U Junior. Large combustion space—low draft loss—ample tube area and diameter, make this boiler ideal for this type of fuel in either steam or hot water systems or panel heating.

EASY SERVICING

is a valuable feature in *New* R-Z-U Junior design. Controls are located for easy access. Cleaning and servicing are simple through large doors in the FRONT of the boiler for both tubes and firebox.

EXTREME FUEL ECONOMY

results first, from the large combustion area, insuring efficient burning of the fuel. Second, from the long flue gas travel of the two-pass design. Third, from the free, unimpeded, surging flow of boiler water in the positive circulation which is the basis of most efficient heat transfer.

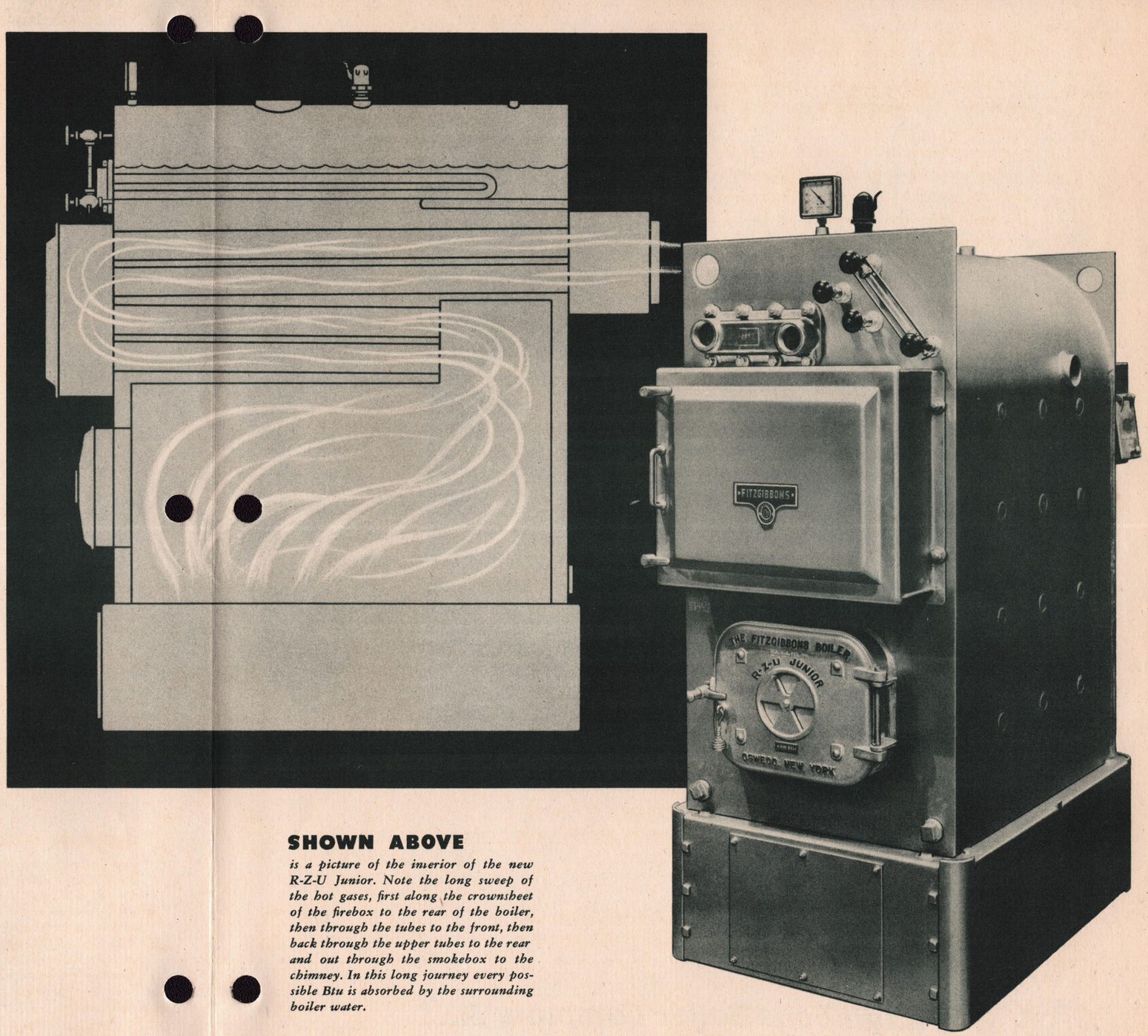
ABUNDANT HOT WATER SUPPLY

from the TANKSAVER*, a submerged coil which provides water heated only as used, summer and winter, needing no storage tank. If a storage tank is already installed or may be preferred for special reasons, a submerged copper tankheater coil may be used.

SIMPLIFIED INSTALLATION

is especially a feature in the R-Z-U Junior. Its one-piece welded construction and compact proportion save hours over the time usually needed to set up boilers of comparable capacity.

*Reg. U.S. Pat. Off.



SHOWN ABOVE

is a picture of the interior of the new R-Z-U Junior. Note the long sweep of the hot gases, first along the crownsheet of the firebox to the rear of the boiler, then through the tubes to the front, then back through the upper tubes to the rear and out through the smokebox to the chimney. In this long journey every possible Btu is absorbed by the surrounding boiler water.

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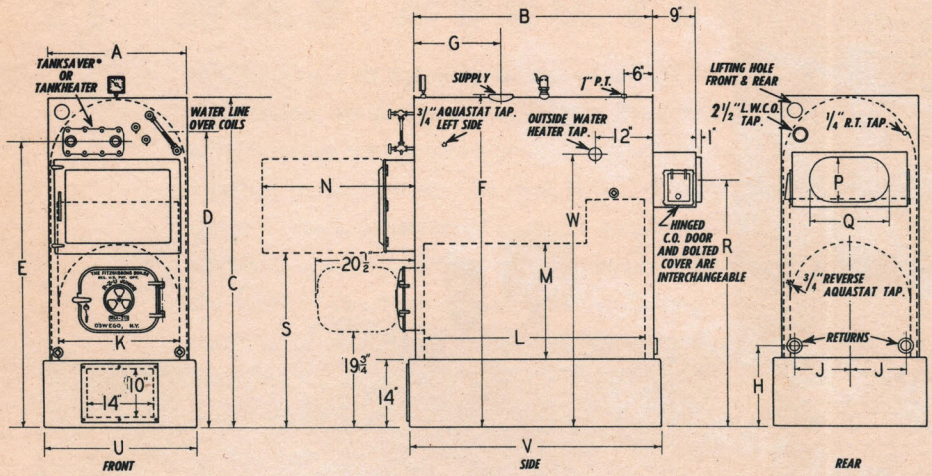
THE FITZGIBBONS BOILER

Reg. U. S. Pat. Off.

15 lbs. Steam 30 lbs. Water 60 lbs. Hydrostatic Test



New R-Z-U JUNIOR

A. S. M. E. Code
Hartford Inspected
S.B.I. Rated

MECHANICALLY FIRED

BOILER NUMBER		RM311	RM313	RM315	RM318	RM322	RM326	RM330
S.B.I. NET RATING — STEAM	SQ. FT.	1100	1300	1500	1800	2200	2600	3000
— WATER	SQ. FT.	1760	2080	2400	2880	3520	4160	4800
B.T.U. PER HOUR	1000's	264	312	360	432	528	624	720
HEATING SURFACE — "SBI" MIN.	SQ. FT.	65	77	88	106	129	153	177
FURNACE VOLUME — "SBI" MIN.	CU. FT.	10.0	11.8	13.6	16.4	20.0	23.6	27.3
FURNACE VOL. ABOVE BOTTOM BOILER	CU. FT.	11.4	13.5	15.2	18.1	21.8	25.4	27.9
A — BARE BOILER — WIDTH	IN.	28¼	28¼	28¼	33	33	33	33
B — BOILER SHELL LENGTH	IN.	36½	42½	49½	41¾	50½	59½	65½
C — HEIGHT	IN.	68	68	68	77	77	77	77
D — WATER LINE	IN.	60½	60½	60½	67⅛	67⅛	67⅛	67⅛
E — TANKSAVER OR TANKHEATER HEIGHT C/L	IN.	59	59	59	65⅝	65⅝	65⅝	65⅝
F — SUPPLY — HEIGHT	IN.	68¾	68¾	68¾	77¾	77¾	77¾	77¾
G — SUPPLY — LOCATION	IN.	18	18	18	18	21	21	21
H — RETURN — HEIGHT C/L	IN.	16½	16½	16½	17	17	17	17
J — RETURN — LOCATION	IN.	11½	11½	11½	13¾	13¾	13¾	13¾
K — FIREBOX WIDTH INSIDE	IN.	23½	23½	23½	28¼	28¼	28¼	28¼
L — FIREBOX LENGTH INSIDE	IN.	32¼	38¼	45¼	37⅜	46¼	55¼	61¼
M — LOWER CROWN HEIGHT	IN.	24¼	24¼	24¼	28	28	28	28
N — OPENED SMOKEBOX DOOR TO BOILER	IN.	30¾	30¾	30¾	37	37	37	37
P — UPTAKE — WIDTH	IN.	9	9	9	12	12	12	12
Q — UPTAKE — LENGTH	IN.	16½	16½	16½	21	21	21	21
R — UPTAKE — HEIGHT C/L	IN.	51	51	51	56⅛	56⅛	56⅛	56⅛
S — HEIGHT OF FRONT SMOKEBOX DOOR	IN.	36½	36½	36½	40	40	40	40
U — BASE WIDTH	IN.	31⅜	31⅜	31⅜	36⅛	36⅛	36⅛	36⅛
V — BASE LENGTH	IN.	39¾	45¾	52¾	44¾	53¾	62¾	68¾
W — WATER HEATER TAP — HEIGHT	IN.	55½	55½	55½	62⅛	62⅛	62⅛	62⅛
SUPPLY	IN.	4	4	4	4	6	6	6
RETURN	IN.	2-2½	2-2½	2-2½	2-3	2-3	2-3	2-3
SAFETY VALVE OPENING	IN.	1¼	1¼	1½	1½	2	2	2
WATER HEATER TAP	IN.	2½	2½	2½	2½	3	3	3
FIREDOOR OPENING	IN.	12 x 15	12 x 15	12 x 15	12 x 15	12 x 15	12 x 15	12 x 15
STACK — DIAMETER	IN.	11	12	12	12	14	15	16
STACK — HEIGHT	FT.	35	35	40	40	40	40	45
BREECHING — DIAMETER	IN.	14	14	14	18	18	18	18
COVERING SURFACE	SQ. FT.	47	53	60	65	74	83	88
SHIPPING WEIGHT — UNJACKETED	LBS.	1750	1920	2100	2410	2750	3065	3280
SHIPPING WEIGHT — JACKETED	LBS.	1950	2135	2335	2660	3025	3365	3600

HAND FIRED — COAL

BOILER NUMBER (See above for dimensions)		RM311HF	RM313HF	RM315HF	RM318HF	RM322HF	RM326HF	RM330HF
S.B.I. NET RATING — STEAM	SQ. FT.	910	1080	1230	1480	1810	2140	2480
— WATER	SQ. FT.	1450	1720	1970	2370	2890	3430	3970
B.T.U. PER HOUR	1000's	218	259	295	355	434	514	595
GRATE AREA — "SBI" MINIMUM	SQ. FT.	4.9	5.7	6.3	7.2	8.4	9.4	10.5
STACK — DIAMETER	IN.	11	12	12	12	14	15	16
STACK — HEIGHT	FT.	40	40	45	45	45	50	55
BREECHING — DIAMETER	IN.	14	14	14	18	18	18	18
SHIPPING WEIGHT — UNJACKETED	LBS.	2075	2295	2550	2935	3275	3665	4000
SHIPPING WEIGHT — JACKETED	LBS.	2275	2510	2780	3185	3550	3965	4300

*Reg. U.S. Pat. Off.

Gas retarding spinners furnished with oil or gas models.

Reg. U.S. Pat. Off.

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

Printed in U.S.A.

MEMBER SBI

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A. I. A. FILE No. 30-C-1

FITZGIBBONS

Directaire

DIRECT-FIRED AIR CONDITIONERS FOR RESIDENTIAL HEATING

THE *Quality* AIR CONDITIONERS FOR *Every* HOME
THAT *Any* HOME CAN AFFORD

A PRODUCT OF THE

Fitzgibbons Boiler Company, Inc.

ESTABLISHED 1886

A. I. A. FILE No. 30-C-1

FITZGIBBONS *Directaire* CONDITIONER . . . THE ULTIMATE IN HOME COMFORT

DIRECTAIRE winter air conditioners make the advantages of residential warm air conditioning available for any home.

Ingenious design and line production combine to make possible a quality product at a reasonable price. Fired by oil or gas, the Directaire is adapted to, and equally efficient with either fuel. An unusually large combustion chamber insures the complete burning of the fuel, while scientific design of the heating surfaces insures the fullest possible transfer of heat to the circulated air, holding fuel costs to the minimum.

Fitzgibbons have been "heat transfer" engineers and specialists for over sixty years, with a long record of success in the manufacture of comfort heating equipment. You get all the advantage of this experience when you select a Fitzgibbons Directaire.

TEMPERS the air in immediate response to thermostatic control, maintaining even temperatures in every room.

HUMIDIFIES the air by adding sorely needed moisture, thus preserving the newness of furnishings, furniture and woodwork and contributing to health and comfort.

CLEANS the air thus removing dirt and pollen, relieving Hay-fever sufferers, and preventing dust accumulation.

CIRCULATES the air through inconspicuous grilles without drafts or noise. A variable pitch pulley makes it possible to increase the rated capacity of the fan for summer ventilation. With the burner shut off, house temperatures may be reduced by drawing in the cooler air from the basement and circulating it through the house at a cost no greater than that of operating your electric refrigerator.

RUGGED CONSTRUCTION. Built of heavy copper-bearing steel plate to assure long life and greatest durability, made gas-tight by Fitzgibbons "Weldseal" construction, these new Directaires embody the proven principle of two concentric heat exchanger drums. Between and around these two heating drums the outgoing air travels, carrying their warmth to all rooms.

HIGH EFFICIENCY. This design makes it possible to provide an unusual amount of effective heating surface in a very compact space and at the same time offers a minimum resistance to the wiping action of the air stream. The hot gases of combustion move freely upward to the top of the combustion chamber where they enter the outer drum and flow to the rear of the unit through the Economizer. Incoming cold air first strikes the Economizer and is thus preheated at the very start of its passage through the unit. Thus the maximum heat value of the fuel is converted to effective use, with a minimum of fuel consumption.

HUMIDIFIER, for installation in plenum chamber is furnished as standard equipment, is of the evaporative type, simple in construction and readily accessible should servicing be required. Regulation is entirely automatic, needing no attention. Rate of evaporation is fixed in relation to the amount of heat generated in response to thermostat demands, and is right for comfort at all times.

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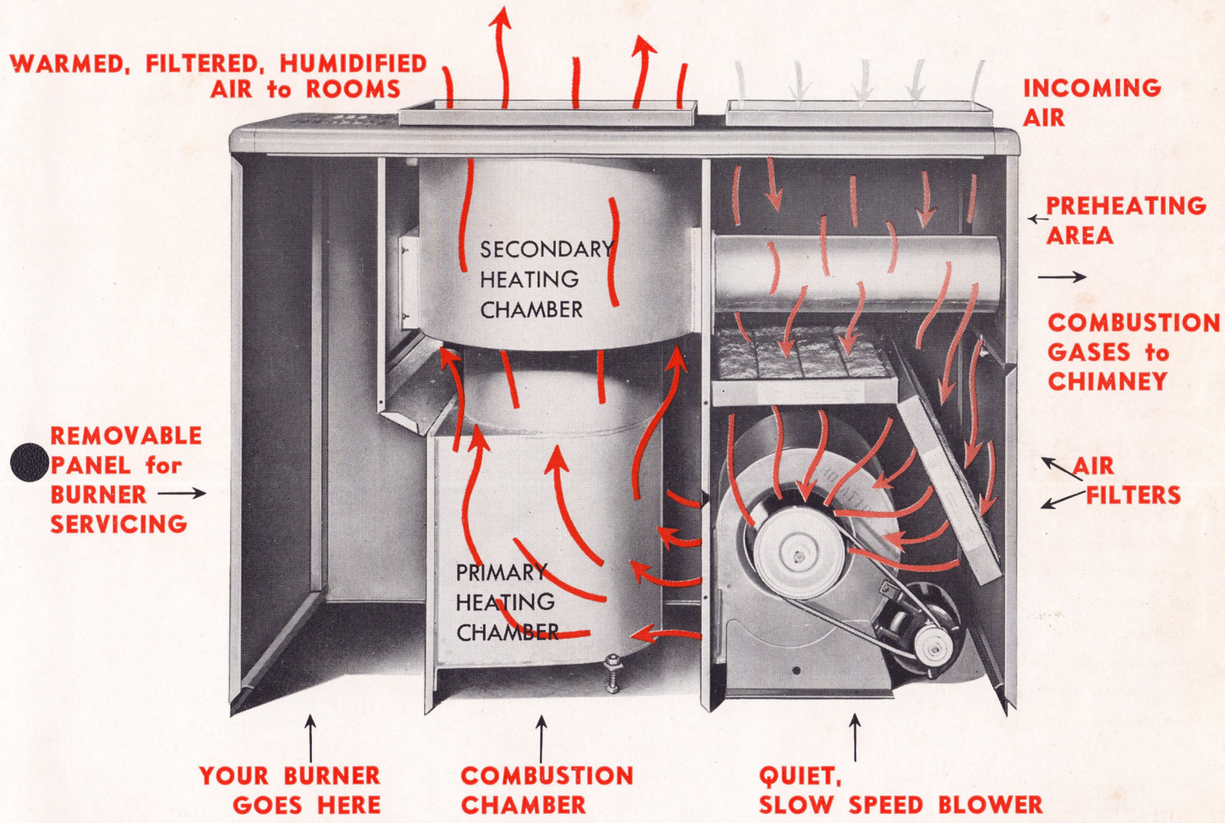
IN the Directaire the gases and other products of combustion are at all times positively and permanently separated from the circulated air by walls of crack-proof steel plate, with all joints welded into a single homogeneous unit. Fitzgibbons welding technique, developed and perfected through many years of constant improvement, and application to many thousands of Fitzgibbons units, is a heritage of service which insures your comfort and satisfaction.

Study the illustration below — note how the incoming cold air is first preheated by the economizer, then passes through the filters, is taken up by the blower and driven into the area around the combustion chamber, then up through the secondary heating area, is humidified, and finally passes up through the ducts to room grilles.



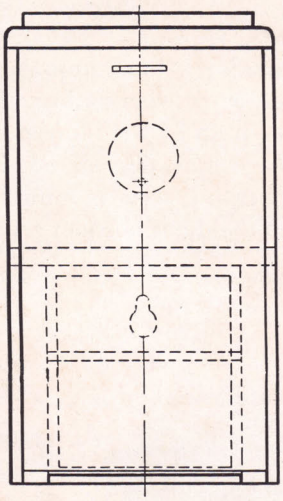
FILTERS. Dirt, soot and pollen are effectively removed by a new easily replaced low cost throw-away type, high efficiency filter.

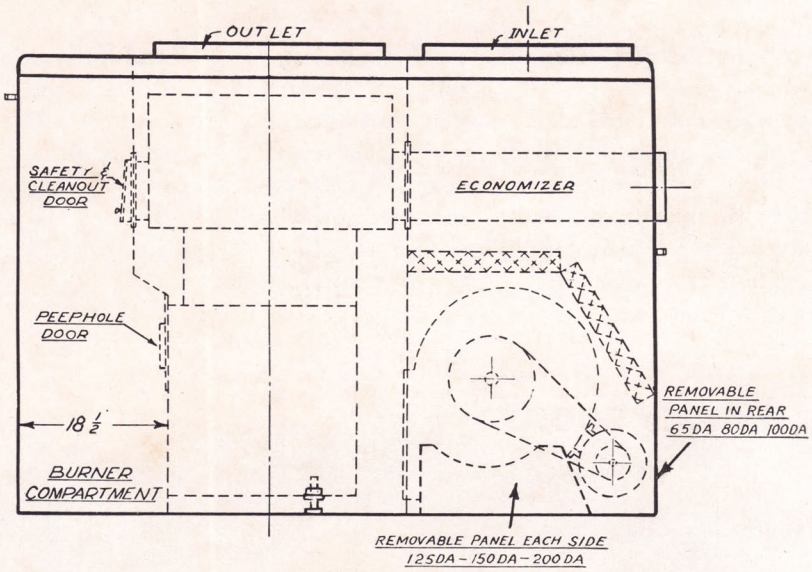
JACKETED in an attractive housing, extended to cover the burner, the complete unit presents a neat compact appearance. Only 60¾″ high in the largest size, it can be used in basements with unusually low ceilings. Fan and filters are readily accessible through a door in the rear of the jacket for the 65 DA, 80 DA and 100 DA, and through doors on each side for the 125 DA, 150 DA and 200 DA. The entire front panel is quickly removable for burner servicing on all models.

BLOWER ASSEMBLY. A centrifugal multi-blade fan, dynamically and statically balanced, is driven by a resiliently mounted motor with a built-in thermal cut-out. The entire assembly is completely insulated from the casing to eliminate all noise.

Particular attention is called to the rated air capacity available at ¼″ external static pressure which makes it possible to use a pressure system and smaller ducts at a corresponding reduction in the cost of the duct work.

FITZGIBBONS *Directaire* SPECIFICATIONS





	65 DA	80 DA	100 DA	125 DA	150 DA	200 DA
Heat Output at Bonnet....Btu/Hr.	65,000	80,000	100,000	125,000	150,000	200,000
Outlet Temp. Based on 65° Inlet....°F.	140	140	140	155	155	155
Air Required at 65° Inlet*....C.F.M.	806	994	1,230	1,280	1,540	2,050
Air Delivered at 140° Outlet*....C.F.M.	915	1,129	1,409	1,465	1,765	2,350
Motor Size....H.P.	1/6	1/4	1/4	1/4	1/3	1/2
Fuel Input Rate—Oil....Gal./Hr.	0.65	0.80	1.00	1.25	1.50	2.00
Fuel Input Rate—Gas....Btu/Hr.	86,600	106,600	133,300	167,000	200,000	267,000
Air Inlet Size....In.	22x24	22x24	22x24	27x30	27x30	27x30
Air Outlet Size....In.	24x24	24x24	24x24	30x30	30x30	30x30
Center Line Outlet to Jacket Front....In.	29	29	29	30⅝	30⅝	30⅝
Center Line Inlet to Center Line Outlet....In.	27	27	27	34⅝	34⅝	34⅝
Jacket Height Overall....In.	49½	49½	49½	60¾	60¾	60¾
Jacket Width Overall....In.	28	28	28	35	35	35
Jacket Length Overall....In.	69	69	69	84½	84½	84½
Gross Furnace Volume....Cu. Ft.	6.2	6.2	6.2	11.1	11.1	11.1
Firebox—Inside Diameter....In.	17¾	17¾	17¾	21¼	21¼	21¼
Firebox—Inside Height....In.	42	42	42	54	54	54
Smoke Collar Diameter....In.	7	7	7	8	8	8
Smoke Collar Height....In.	34½	34½	34½	40	40	40
Chimney Diameter....In.	8	8	8	9	9	9
Chimney Height....Ft.	20	25	25	30	30	35
Approximate Shipping Weight....Lbs.	525	550	575	750	800	875

* Based on ¼" External Static Pressure.

This does not represent maximum C.F.M. which may be obtained. For special problems refer to our Engineering Department.

MOST ECONOMICAL IN FUEL — 1886 — THE FITZGIBBONS BOILER

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

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